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GENERAL PLAN

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GENERAL PLAN

City of Walnut Creek

This plan was adopted by the City Council in September 1971 and was subsequently amended thereafter by the following resolutions:

Resolution No. 2881 - 12/ 4/72
 Resolution No. 2917 - 1/29/73
 Resolution No. 2918 - 1/29/73
 Resolution No. 3017 - 7/16/73
 Resolution No. 2059 - 11/26/73
 Resolution No. 3068 - 12/17/73
 Resolution No. 3147 - 6/17/74
 Resolution No. 3172 - 8/19/74
 Resolution No. 3211 - 12/16/74
 Resolution No. 3243 - 3/24/75
 Resolution No. 3279 - 6/16/75
 Resolution No. 3280 - 6/16/75
 Resolution No. 3320 - 9/16/75
 Resolution No. 3331 - 11/17/75
 Resolution No. 3392 - 6/ 7/76

Resolution No. 3454 - 10/ 5/76
 Resolution No. 3473 - 11/16/76
 Resolution No. 3491 - 1/ 4/77
 Resolution No. 3574A - 6/14/77
 Resolution No. 3613 - 8/16/77
 Resolution No. 3648 - 11/ 1/77
 Resolution No. 3740 - 7/18/78
 Resolution No. 3742 - 7/18/78
 Resolution No. 3743 - 7/18/78
 Resolution No. 3777 - 10/ 3/78
 Resolution No. 3825 - 3/20/79
 Resolution No. 3854 - 6/ 5/79
 Resolution No. 3865 - 7/10/79

CITY OF WALNUT CREEK OFFICIALS

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Robert I. Schroder, Vice Mayor
Sanford M. Skaggs
James L. Hazard
Albert Schiff

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Daniel J. Curtin, Jr., City Attorney
Adele C. Laine, City Clerk
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Karel A. Swanson, Community Development Director
David Finigan, Public Services Director
Ronald Gallaher, Administrative Services Director
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PLANNING COMMISSION

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GENERAL PLAN LAND USE MAP

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PREFACE

People are attracted to Walnut Creek due to its accessibility to the Bay Region by freeway and the availability of rapid transit, the choice and quality of housing within an open space setting, the commercial and cultural facilities that are provided in a central location, and the quality and convenience of community facilities that are distributed throughout the area.

Walnut Creek families earn considerably more than the average County family income, and the majority of the jobholders are dependent on the San Francisco-Oakland employment centers for their livelihood. The City itself relies primarily on sales and property tax revenue in addition to special funds to support local government.

The greater majority of the families are in the child-raising stage of the life cycle and have purchased homes in relatively homogeneous neighborhoods where similar values, attitudes, incomes and educational backgrounds prevail. Since 1960, there has been a major influx of apartment development to accommodate younger and older individuals and families who prefer living in the suburbs to the central city. At the same time, special residential facilities are being provided at Rossmoor for an adult community that is just as homogeneous as the new subdivision neighborhoods.

How Walnut Creek can accommodate a reasonable portion of the future population and employment growth of the Bay Region and Contra Costa County and still maintain the significant qualities that make the community so attractive today is the major task of those responsible for advising and making decisions on behalf of the City.

The General Plan can provide both a short and a long range policy guideline for the orderly and desirable physical development and conservation of the community based on its social, economic, and political needs and desires. The Walnut Creek General Plan is based on the recognition that the City is one interrelated part of the Bay Region and is dependent on a viable regional economy, a stable and integrated social organization and a regional political body that is capable of solving the regional problems related to air and water quality, regional parks and regional transportation facilities. At the same time, the community is desirous of maintaining its individual physical identity, providing local community facilities and services, and a government responsive to local desires regarding development and conservation policies.

As adopted, the Walnut Creek General Plan is consistent and compatible with the major land use, circulation, and open space proposals expressed in the adopted Association of Bay Area Governments' Regional Plan. Now that housing is also increasingly becoming a regional, as well as local concern, it is imperative that ABAG give local governments a strong voice in formulation of regional housing policy. For it is only through the participation of all local communities that the meeting of regional goals and solving of regional problems can become a significant reality in both the central cities and the suburban communities.

The Walnut Creek General Plan consists of ten major elements: land use, circulation, open space, community design, conservation, housing, seismic safety, safety, scenic corridors, and recreation. The land use and circulation elements are traditional to all comprehensive general plans as required by State Planning Law. Walnut Creek has responded with an adopted set of general objectives, principles and standards, inventories and identification of general problems and solutions at this time. A community design element has been initiated (to be expanded upon later) that concerns itself with strengthening community identity and imaginability, and guiding the translation

of two dimensional land use, circulation, and open space policies into attractive and compatible three dimensional forms.

The Plan is intended to be a short-range guide to development and conservation in that it establishes general policy that must be translated into specific zoning, subdivision, and capital improvement program policy before implementation. In some cases, General Plan policies should not be translated into specific implementation policy within the six-year zoning period. In these situations, staging of development is desirable in order to ensure the most orderly and efficient pattern of development. A Development Staging Diagram is included in the report that generally indicates which areas should not be developed or redeveloped immediately, but instead should be held in reserve for future development either through continued use of existing structures or by application of agricultural or open space preserves.

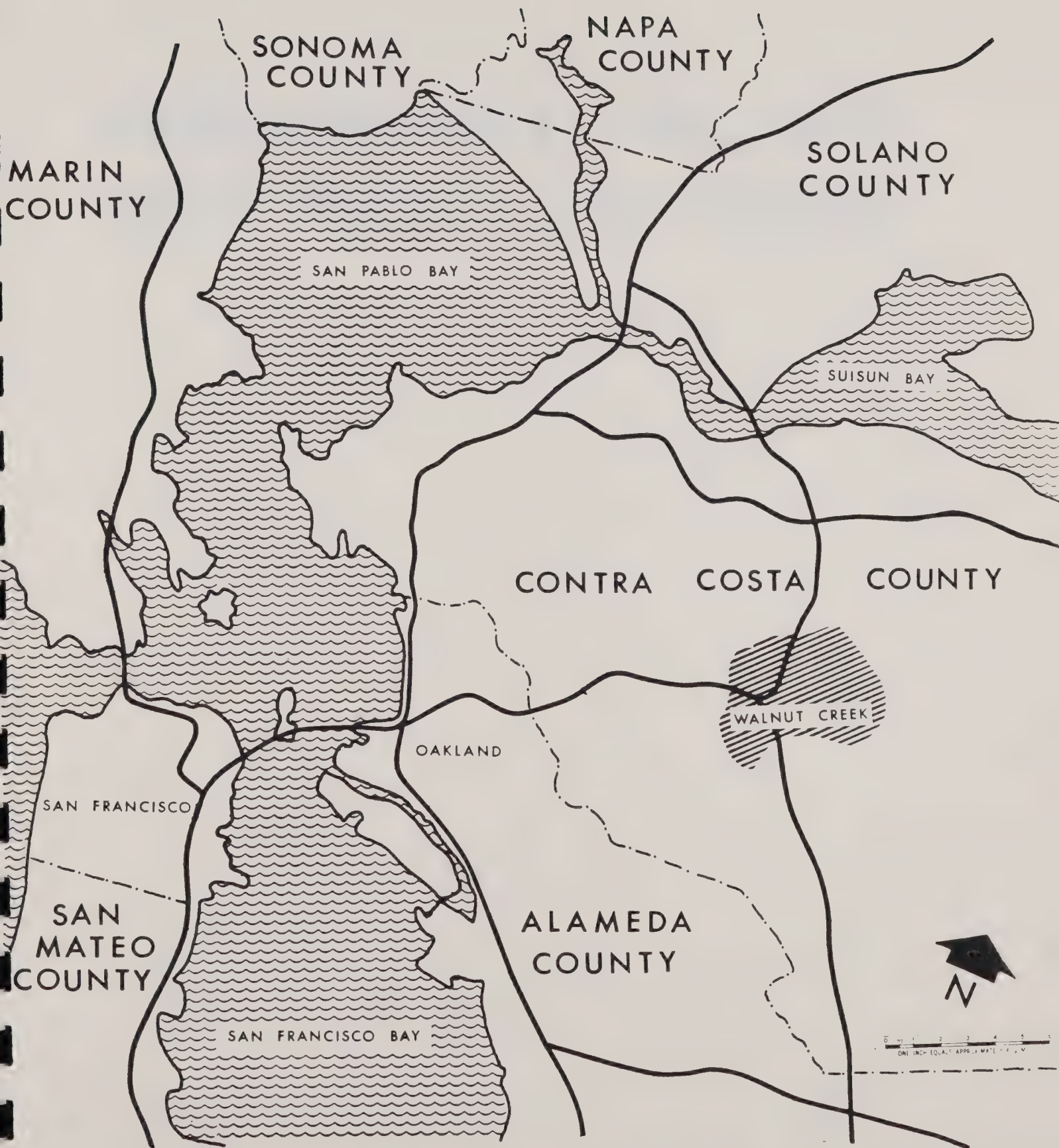
The Plan is a long-range guide in that it provides a current indication of the desirable ultimate land-use patterns, transportation system, open space system, and functional organization and design of the community. It further indicates the population, numbers of dwelling units and numbers of employees that could be accommodated within the Planning Area at design capacity based on adopted policies, and provides a basis for comparison of those design capacities with both short and long-range projections.

Included in the adopted General Plan as official policy guidelines are the statements of objectives, principles and standards, the descriptive text, the Development Staging Diagram, and the General Plan Diagram. Supporting these policy statements are summaries of basic data studies, analytical findings and projections, and design capacity estimates in the Appendices.

The General Plan is but one part of the community planning and decision-making process. The adoption of the Plan should now be followed with a comprehensive zoning study for the City and rezoning study for the unincorporated portion of the Planning Area; with changes to the subdivision portion of the Planning Area; with changes to the subdivision regulations to encourage and control cluster development in the hill area; and by adoption of the proposed Capital Improvement Program that indicates which major public expenditures should be undertaken during the next five years for roads, parks, greenways, Civic Center, and Civic Arts, and other public facilities.

The Plan should be reviewed and updated on an annual basis and should be subject to major review every five years to ensure its continued usefulness.

The effectiveness of the Plan will depend on the degree to which it reflects a consensus of the majority of the community and the special interest groups that influence the decision-making process; the extent of the balance ~~that~~ is achieved between accommodating the pressures for development and the preserving of the amenities that attract people and employment to Walnut Creek; and to the extent that it is actually used in the day-to-day decision-making process.



GENERAL PLAN INTRODUCTION

INTRODUCTION

In order to fully understand the character of Walnut Creek today and attempt to project what the community's future should and will be, it is necessary to have a general impression of the history of the area and the growth factors that have contributed to the accelerated changes that have been taking place.

HISTORICAL SKETCH

The First Settlers

The first known habitants in the Walnut Creek area were the Bolbones Indian tribe. When Walnut Creek was discovered by Captain Pedro Fages and his exploration party in 1772, the tribe lived in villages along the valley creeks with ample native foods and wildlife nearby. During efforts to convert the Indians to their ways, the Spanish unknowingly introduced foreign diseases to the tribe that led to its decline in the area. Before a permanent Spanish colony could be established, however, revolution with Mexico occurred which resulted in the latter assuming control of California in 1822. In order to encourage settlement throughout California, the Mexican government offered large land grants, called Ranchos, to supporters who would live in comparative isolation from the trade centers. Portions of four such grants were located within the Walnut Creek area including: Rancho San Ramon (1826) in south Walnut Creek, Rancho Arroyo de las Neuces y Bolbones (1834) in Ygnacio Valley and the Las Lomas area, Rancho Canada del Hambre (1842) in the Acalanes area, and Rancho las Juntas (1844) in the Larkey area.

Statehood and the Town of Walnut Creek

Soon after the land grants were issued, the war between the United States and Mexico afforded Californians the opportunity to declare the territory an independent republic. By 1850 California was admitted to statehood, and at the same time the effects of the Gold Rush were being felt locally. The rich soils of the Ygnacio and San Ramon valleys were turned over to wheat production to help feed the influx of fortune seekers.

During the 1850's the central Walnut Creek area was known as "The Corners", so named because the paths of the transportation of wheat to Pacheco for shipping and the linking of central Contra Costa County with Oakland and San Francisco crossed in a narrow valley that was destined to become a sub-regional center of activity.

William Slusher became the first "Core Area" resident when he built his cabin adjacent to the creek near "The Corners" in 1849. In 1851 James T. Walker established a 1,300-acre farm and livestock ranch in Ygnacio Valley at the base of Mount Diablo. What was to become the town of Walnut Creek was laid out in the late 1850's by Homer Shuey who purchased the land from Slusher.

In 1860 the town was officially called Walnut Creek as it gained its first U. S. Post Office of the same name. There seem to be two somewhat conflicting sets of assumptions about the origin of the community's name. In a statistical and descriptive document extolling the advantages of Contra Costa County in the 1890's, the name Walnut Creek was said to have been derived from a "little hill to the south of the town site, as early settlers will remember, had the appearance of a split walnut shell, with a small stream of water running between them, hence the name Walnut Creek". It is more likely that the community was named after the black walnut trees that were supposedly imported to the area by the Indians from Southern California, and the creeks that provided the sites of first the Indian villages and then of farmers and merchants.

Seeing the potential for growth in Walnut Creek, Homer Shuey created the first two subdivisions of land, one in 1876 and a larger one in 1877, with part of the street and land use pattern still with us today in the Core Area. Most of the residential development of the town during the next decade was within the boundaries of those two subdivisions. Nearby, Main Street and Mount Diablo Boulevard continued to expand as the commercial thoroughfares of the town. At the same time change was taking place outside of town in Ygnacio Valley where, due to competing sources of grain and the introduction of irrigation techniques, a transition from grain farming to more intensive fruit and walnut farming was made.

Growth in the Walnut Creek area in the late 1800's was hampered by the difficulty of access through the Berkeley hills until 1897 when a tunnel was begun that, by 1904, accommodated one lane of traffic.

Rail service was first extended to Walnut Creek in 1891 by the Central Pacific Railroad, now the Southern Pacific Railroad. By 1913 Walnut Creek had direct access to Oakland and the Bay via the Oakland and Antioch Railway Company's line that reached Oakland through Shepherd Canyon and tunnel. In 1914 a spur line nicknamed the "Toonerville Trolley" was added to service commuters from Danville and Diablo. The junction of the spur line with the main line was named Saranap after Sarah Naphtaly, the wife of the vice-president of the O and A.

The rail service attracted the first suburbanites and commuters to Walnut Creek. Large ranch owners responded by subdividing their lands on the edge of town into small ranches typically five acres in size as exemplified in the Larkey Area. Closer to the town center, subdivisions were laid out in a much more urban pattern with many lots as narrow as 25 feet in width and 3,000 square feet in area.

The Incorporated City of Walnut Creek

By a vote of 127 in favor and 67 against, Walnut Creek became an incorporated city in October, 1914. The original city limits generally were delimited by what is now Mount Diablo Boulevard, the Southern Pacific Railroad Line, Parkside Drive, the Pringle Addition Subdivision, and the Del Hambre Terrace Subdivision. They contained a one square mile area of relatively flat land in what today is the center of Walnut Creek. Although an exact figure is not provided, it is estimated that at the time of incorporation, there were less than 500 people in the town. Despite an ample number of platted subdivision lots, growth was very slow during the war years as our economy and manpower was geared to the European front.

1920 - 1930

By 1920 the automobile was beginning to have a significant impact on the community as roads were paved, the first gas stations constructed and garages and parking lots established. The Sunday motorist was already subjected to roadside stands, billboards and speed laws. Growth was still relatively slow in Walnut Creek and Central Contra Costa County during the 1920's however, as lack of a Bay crossing and poor access through the Berkeley hills restricted most of the growth to the Peninsula and Bayside cities that were closer to the industrial and office centers. Between 1920 to 1930 the City population increased from 540 to 1,000 while the larger Planning Area was increasing from 8,000 to 11,000 in population.

1930 - 1940

The depression years of the 1930's also provided little growth in the Walnut Creek area, but two important regional public transportation projects were undertaken that would make later growth possible. One was the completion of the San Francisco-Oakland Bay Bridge in 1936, and the second was the construction of the Broadway Low-Level Tunnel (Caldecott Tunnel) and widening of the highway to Walnut Creek in 1937. These two events marked the beginning of the end of commuter railway service from Central County to Oakland, as automobile travel became too competitive. In 1937 municipal water and sewer systems were completed; functions that were later to be turned over to the special districts serving larger areas. Between 1930 and 1940 the City increased in population from 1,000 to 1,580, while the Planning Area population increased from 11,000 to 14,000.

1940 - 1950

The outbreak of World War II delayed the outward flow of suburban growth that was destined to spread to the edges of the San Francisco - Oakland area as public transportation facilities improved and the economy stabilized. The most remarkable growth in the County during the 1940's took place in Richmond in response to the need for employees to aid the war effort.

As Central County prepared for the growth that was to follow after World War II, it became evident that rural utility facilities were going to be inadequate for this suburbanizing area. The special districts offered the most expedient solutions as evidenced by the creation of the Central Contra Costa Sanitary District in 1946. With this agency providing sewer service both inside and outside of City Limits, the separate City level of service was eliminated.

The growth that began to take place after World War II was much greater in the unincorporated portion of the Planning Area than within the City Limits as there appeared to be a desire on the part of the returning servicemen to settle down and raise a family in the country. Between 1940 and 1950 the City population increased from 1,580 to only 2,420, while the total Planning Area population increased from 14,000 to 22,000.

1950 - 1960

As with the earlier change in sewer service, City water service was eliminated in 1951 when the East Bay Municipal Utility District was chosen over the California Water Service to provide water for the community.

In response to the needs of a 100,000 trade area population in 1951, the first portions of the Broadway Shopping Center were developed. This development firmly established Walnut Creek as the commercial hub of Central Contra Costa County. Extension of the first segments of the freeway system to Walnut Creek in the early 1950's further enhanced the City's position as a retail trade center, and cleared some of the local streets of the through traffic burden. Many of the other local streets in the downtown area were also inadequate and congested to such an extent that the City initiated its "Little Master Plan" project in 1956. This Plan had the benefit of land use and circulation policy guidelines formulated in the preparation of a Preliminary General Plan for the City in 1953 that was adopted by the Planning Commission but shelved by the City Council. The City Limit and the Planning Area boundary in 1953 were coterminous and occupied generally what is called the Core Area today. The Incorporated Planning Area in 1953 included about 1.25 square miles compared to a City area today of 16 square miles and a Planning Area covering 37 square miles.

Although the City increased its population from 2,420 in 1950 to 9,900 in 1960, the unincorporated portion of the Planning Area accommodated an equal amount of the growth as the total Planning Area increased from a population of 22,000 in 1950 to about 35,000 in 1960.

1960 - 1970

During the 1960's most of the new residential and commercial development within the Planning Area took place within the City Limits. The City increased in population from 9,900 to almost

40,000, while the Planning Area increased from 35,000 to about 65,000 in 1970. Employment increased significantly from less than 3,000 jobs in 1960 to 10,000 in 1970. In order to house this large increase in population 5,300 new single family dwelling units, 3,800 multiple family dwelling units and more than 3,400 Rossmoor dwelling units were built during the 1960-1970 period within the Planning Area.

Passage of a \$6,875,000 bond issue by an 85% plurality in 1965 gave the City the opportunity to catch up on needed major public improvements including road extensions, storm drainage facilities, a traffic signal system, and substantial park improvements. Facilities that have already been constructed include: pool and attendant facilities at Larkey Park, San Miguel Park improvements, California Boulevard connection, extension of North Broadway, westerly extension of Civic Drive, northerly extension of Civic Drive, and the installation of the traffic signal system.

The first phase of development at Heather Farm City park, including recreation center, ball fields, lake, tennis courts, paths and parking, has been completed; and the second phase swim complex is under construction. The final 1965 bond issue project, South Broadway extension, is also currently under construction as part of the City's first redevelopment project.

WALNUT CREEK TODAY

Walnut Creek continues to place heavy reliance on its Core Area to accommodate the most intensive facilities and activities of the community including: comparison shopping and office facilities in the Central Commercial District, automobile-oriented service facilities along major thoroughfares, high density apartment areas on the edges of the District, and area-serving institutional facilities such as the civic center, churches, and the Kaiser Center. That emphasis will be enforced as development responds to the construction of the Bay Area Rapid Transit Station and the new Civic Center, both at the northern end of the Central Commercial District.

The downtown area is supplemented with outlying centers in selected locations to serve the residential areas including convenience shopping centers, professional offices, parks and schools.

Most of the high density apartment areas are located within the Core Area or immediately adjacent to it, while some lower density garden apartments are beginning to emerge in the outlying areas adjacent to community facilities and major thoroughfares. Almost all of the single family residential areas have been developed in conventional small or large lot subdivisions with detached houses on individual lots. Recently, however, development of clusters of attached, owner-occupied houses with common open spaces and recreation areas has been started. And in a few more conventional subdivisions, pathways and greenways have been created for the use of cyclists and pedestrians in getting to community facilities such as parks and schools.

Although Walnut Creek still has some valley flatlands remaining for development, there has been considerable interest shown already in extending the residential areas up into the hillsides. The few subdivisions that have been developed on steeper terrain have been based on flatland standards; a situation that has resulted in excessive scarring of terrain and loss of tree and ground cover that is visually unattractive, devoid of common open space areas, and a contributor to excessive soil erosion and storm runoff.

Interest in preservation of the significant features of the terrain has been expressed through recent adoption of a tree preservation ordinance, through growing support for cluster development where open space can be preserved, and by requests for more stringent grading controls and other hillside standards.

Major public projects that are currently in progress or recently completed include: the completion and operation of the Bay Area Rapid Transit Line in spring, 1972 with two stations in the Planning Area, the recent widening of State Freeway 24 to accommodate eight travel lanes, the opening of the new 18-hole municipal golf course and club house in the spring and summer

of 1969, the widening and landscaping of Ygnacio Valley Road, and the continuing construction of the City Park at Heather Farm as evidenced most recently by the start of the swim complex that will be completed in spring, 1972. Despite space limitations, Walnut Creek today is providing one of the most comprehensive arrays of recreation and civic arts programs for its residents and Central County that is available in suburban communities throughout the state.

As of July, 1970 the City population was more than 40,000 compared to a Planning Area population of about 64,500. Although the City percentage of the total population has been steadily increasing during the 1960's, this gap between the number of people directly contributing to economic wellbeing of the community through property taxes and the total population having the community facilities available to them is so large that both the incorporated and unincorporated areas must operate in a less efficient manner. The duplication, de-emphasis and lack of services are all consequences of this fragmentation of effort.

At the same time, Walnut Creek's interdependence with the Bay Region is illustrated by the fact that more than 50% of the City's residents commute to the San Francisco-Oakland area and are dependent on that area for their family income. About 20% of the Walnut Creek labor market works within the Planning Area and the remaining 30% are employed elsewhere in the County. Local employment opportunities are increasing as the 10,000 jobs within the Planning Area today represent about 40% of the area's labor force. These jobs are about equally distributed between the Core Area and outlying portions of the Planning Area. Increasing importance is being placed on the Ygnacio Valley employment center as there are currently about 1,000 employees in this research and development area.

Unlike the stereotyped image of many suburban communities, Walnut Creek is providing variety in housing choice today. Slightly less than two-thirds of the 22,700 dwelling units within the Planning Area in 1970 were single dwelling units. Of the 15,000 dwelling units within the City today, 45% are single family, 32% multiple family and 23% Rossmoor.

New detached single family dwellings range in price from \$40,000 to \$60,000 with the average new home selling for more than \$50,000. The average resale price in the Central County area is approximately \$38,000 and slightly higher in Walnut Creek. Most new single family attached dwellings within the Planning Area range in price from \$30,000 - \$45,000 today, although two projects have been approved at higher densities in the unincorporated areas that will provide housing in the \$23,000 - \$30,000 price range. Of the 14,700 single family homes within the Planning Area today, it is estimated that 15% have a market value of less than \$25,000, 20% range in value from \$25,000 to \$30,000, 30% ranging in value from \$30,000 to \$40,000, another 30% in the

\$40,000 to \$50,000 price range, and 5% selling for more than \$50,000.

Slightly more than 50% of all the 22,700 dwelling units within the Planning Area are estimated to be less than 10 years old, one-third are 10 to 20 years old, and the balance are more than 20 years old. In close correlation with the age of Walnut Creek's housing, 90% of the current single family dwellings are considered to be physically stable and lying within neighborhoods that have a good chance of remaining sound with continued upkeep and conservation habits. Of the remaining 10%, less than one-half are estimated to be deteriorating or delapidated.

WALNUT CREEK'S FUTURE

Although no individual or group can be expected to exactly predict the future of a community, let alone its individual components, general assumptions about a city and projections of its growth can be made based on past trends. And within reason, these trends can be modified in response to the community's needs and desires; especially if they are socially justified and economically and politically sound. At the same time the prospects of a community must be placed within the regional framework that it interacts with and is a part of.

During the next 20 years Walnut Creek is expected to emerge, together with the cities of Concord and Pleasant Hill, as a sub-regional center of the Bay Region. While Walnut Creek will continue to provide a dual role with Concord as a retail trade center, its relative position will decrease compared to the past and increased reliance will have to be placed on the quality comparison shopping market that it serves in the southern portion of Central County. Increasing emphasis will be placed on office and banking activities in the Core Area as evidenced by this type of floor area representing 85% of the growth in the Core Area in 1969-70 fiscal year.

Development and expansion of major public-oriented facilities such as the Civic Center, the Walnut Creek Rapid Transit Station, and the Kaiser Center will stimulate intensive high rise development nearby.

Walnut Creek will also continue to play a leading role in providing cultural programs for Central County residents, both through its Civic Arts program and by the location of private facilities in the Core Area; and it is anticipated that other Central County cities will increasingly provide complementary programs. The well-supported recreation programs of Walnut Creek will be substantially expanded as much needed public facilities are provided during the next ten years to meet the growing leisure time needs of the community. The next generation of Walnut Creek area residents should be able to hike or ride to any public park and most schools in the City on a comprehensive trail system with a minimum of conflict with auto-

mobile traffic. Increased demand for health and welfare facilities and services beyond that normally expected will be created in Walnut Creek as the elderly are continually attracted to the housing and programs offered by the community; and as increased emphasis is placed on local outpatient clinic facilities.

The needs of youth for more part-time jobs, commercial and public recreation facilities, and participation in community activities will have to be more fully recognized and acted upon.

In response to a projected population by 1990 of up to 120,000 in the Planning Area, a continued variety of housing types and densities should be provided, ranging from high rise apartments surrounded by urban open space in the Core Area, to preservation of open residential areas for "ranchettes" near the slopes of Mount Diablo. In order to provide home ownership opportunities for more people in broader income ranges, conventional single family detached dwellings on relatively large lots should be supplemented with the choice of clusters of attached single family dwellings with common open spaces and recreation facilities. Apartment residents who either prefer or need to rent their homes should have a choice of convenient outlying locations, as well as Core Area locations. And, if the above choices were provided, not only in Walnut Creek but in all suburban portions of the Bay Region, there would be increased opportunities for integration of minority groups throughout the region.

If increased employment in Contra Costa County is going to provide two to three times the present number of jobs, Walnut Creek should be making provision for a similar number of job opportunities that reflect the present and anticipated characteristics of its populace. This means that a substantial increase in the number of administrative, professional and technical job opportunities must be made in Walnut Creek and Central County in addition to the expanding Core Area retail and services employment and industrial employment in Concord and the North Bay.

The projected 75% increase of population during the next 20 years will have to be matched with additional schools, parks, shopping centers, branch libraries, fire stations, churches and other community facilities.

Circulation

In order to readily handle the various commuting, shopping, schooling and leisure time trips generated by the projected growth, the present transportation system will have to be completed and expanded upon. New bond issue and federally-aided projects will have to be provided for major local thoroughfares. A major free-way route will have to be designated and developed. Commuters' reliance on the car will have to be altered to make rapid transit successful if additional freeways and unacceptable smog levels are to be prevented. Other means of local transit will have to be devised or reinstated to complement rapid transit and the automobile. Small, battery-operated cars may be utilized for local

trips to the market, schools, BART, etc.; rapid transit increasingly relied upon for commuting and other regional trips; and the conventional auto confined to commuting and long distance trips. Helicopters at convenient helistops will link Walnut Creek and Central County to the "jumbo jets" at the major airports. And with adequate paths and trails, why can't the suburbanite learn to walk and ride again?

Open Space

What is conserved of the significant tree cover, creekways, hill area features and views of Mount Diablo will be an important determinant in the continued attractiveness of Walnut Creek as a place to work, shop, reside, learn and play.

Hopefully the next generation in Walnut Creek will still see the slopes of Mount Diablo in grazing, recreation and other open space uses. The steep ridges, significant tree cover and meandering creeks can be preserved and still offer more buildable portions of the hill areas suitable for housing through cluster development. Trails along these ridges and creekways can be provided to link residential areas with both the natural beauty of the passive hill area open space and the more active parks, schools and shopping centers of the flatlands.

Greenways and scenic highways can be preserved and developed that will enhance the driving experience, make thoroughfares and adjoining land uses more compatible, and nearby cycling and walking activities safer.

Community Design

The detailed visual appearance of Walnut Creek will continue to reflect a variety of architectural styles. The broader community design will reflect an identifiable Core Area where the high rise buildings of the community will be located and where the greatest massing of building to land area will be seen. Parking structures rising several stories above or below ground level will further add to the concentration of activity in the Core. Creekways, landscaped plazas, and the road network will provide visual relief to this intensive development.

The outlying residential communities will continue to be visually defined by major ridges and major thoroughfares, each having a high school and community park facilities as focal points of activity. Remnants of walnut orchards will have softened the visual impact of new subdivisions until additive landscaping has matured. Older established neighborhoods will provide a backdrop of greenery and color to the public view. Well landscaped focal points of interest and activity such as shopping centers, churches and medical complexes will add variety to the community pattern in the residential areas.

Each of the major entrances to the community will be invitingly landscaped and signed to welcome visitors to Walnut Creek.

Attractive entrance signs to major subdivisions, apartment complexes and community facilities will identify each area. Inviting public street and park furniture will dot public thoroughfares and facilities adding visual interest as well as function.

Staging of Development

During the next five years, most of the remaining flat lands within the community will have been developed; providing more intensive development and more common open space in the process. Most of the new development after 1975 will take place in the hill areas through some form of cluster development. By 1985 the rapid growth of the community will be subsiding and redevelopment in and near the Core Area will become the predominant form of growth in the City.

Governmental Framework

Both the creation of a Regional Government to solve the area-wide problems of the Bay Area and the strengthening of local government can be expected over the next 20 years. Annexation laws will have changed to reduce the amount of duplication of services between City and County governments by inclusion of all urbanizing areas in local governmental jurisdictions. At the same time the sub-regional role of County government activities will have been strengthened.

THE PLANNING PROCESS

The General Plan policies are not ends in themselves, but are part of a continual planning process that is providing information and recommendations to aid in the decision-making process. Included sequentially in the planning process are the following general steps: definition of objectives, gathering of basic data, analysis and projections, consideration of sketch plan alternatives, preparation of a preliminary plan, public hearings, adoption of a general plan, plan implementation, annual review of plan policies, and periodic major plan revisions. A brief description of each step in the process as experienced in Walnut Creek's General Plan revision studies is provided below.

Objectives

Before a community makes rational decisions affecting its future, it must first have a sense of what its objectives or goals are. Once general objectives are established, their reasonableness can be tested as they become translated in alternative plan policies. Preparation of a set of objectives can be accomplished in several ways. They can be derived by a citizens committee that acts as an intermediary between the City Staff and the special interest groups of the community; or by Staff through direct consultation with these special interest groups; or by Staff indirectly by interpretation of City actions, and community reactions; or by a combination of the above.

The alternative method that the City chose involved the preparation of a preliminary set of objectives, review of these goals by special interest groups in the community, and modification for testing of Sketch Plan alternatives. Special interest groups and other agencies contacted included home-owners associations, the Walnut Creek Action For Beauty Council, the Chamber of Commerce, Contra Costa Board of Realtors, Home-builders Association of Contra Costa-Solano Counties, utility companies, the Cities of Concord and Pleasant Hill, Contra Costa County, the East Bay Regional Park District, and the Association of Bay Area Governments.

The set of objectives included in this report primarily relate to the physical environment and development and conservation decisions. In recognition of the more varied range of activities that affect the well being of a community and the desirability of more extensive community involvement, the City Council recently established a Goals Committee for Walnut Creek. This committee was charged with review and analysis of information and goal formation in eight broad areas of concern, including: governmental operations, education opportunities, environmental control, economic life, cultural life, spiritual life, health and social services, and recreation and entertainment. The committees are currently completing their initial inventories and goal formulation and did not have a final set of objectives in time for consideration in adoption of the revised General Plan. After the Committee's work is completed and informally reviewed with the community, the resulting objectives and suggestions for implementation should be submitted to the Planning Commission and the City Council for consideration of amendment to the General Plan through public hearings. In this way, social and economic considerations can have a greater impact on decisions made about the physical environment.

Basic Data Gathering

Essential to any decision, whether it be in long range planning or in day-to-day activities, is a collection of basic data to understand the current situation before analyses and decisions can be made.

After a year of data collection, the Planning Department prepared a Basic Data Report in July, 1967 which included summaries of information relating to: slope analysis, existing land use, traffic characteristics, public facilities, public utilities, population and housing characteristics, employment, major development trends, open space, hill area development, community design and general plans review.

Additional population, housing and employment data was provided in the Building Construction Activity Study prepared by Herman Ruth & Associates in July, 1967 at the onset of the analytical phase of the General Plan revision studies. The characteristics

of vacant parcels of land in the Planning Area of 25 acres or more is provided in the Planning Analysis Reports prepared in November, 1968.

Analysis & Projections

Once basic data has been collected and organized, problems and development trends can be analyzed and projections of future population, dwelling units, jobs, school enrollment and other consequences of development undertaken.

Analysis and projections of current trends and data was undertaken at the Sketch Plan Alternatives, Preliminary General Plan and General Plan stages of the studies. The Planning Analysis Reports provide detailed summaries of the growth allocations made in the testing of alternative Sketch Plans by a simulation system technique. The consequences of the simulated growth for each Plan alternative were quantified, such as the number of additional school children that would be generated; and the implications of that growth determined, such as the need for a certain number of new schools. Similar analyses and projections were made for both the Preliminary General Plan and the adopted General Plan. Summaries of the General Plan projections are located in the Appendix at the end of this report.

Sketch Plan Alternatives

Current City policies, both written and unwritten, were combined with expected trend projections to formulate the first policy guide designated Sketch Plan 1. Future development was then allocated in two year increments and six and ten year sub-periods based on the translation of population projections into housing demand and the Sketch Plan 1 policies. The techniques of the Development Distribution Simulation Study were used to distribute this growth. In this study the comparative attractiveness of each major parcel (25 acres or more) for development was analyzed based on the major characteristics of each parcel including: slope, accessibility to major thoroughfares, availability of utilities, availability of community facilities, assessed valuation of land, and general amenity of an area. Based on Sketch Plan 1 policy, development (dwelling units) was allocated in increments up to the 1990 time period. The consequences and implications of Sketch Plan 1 were then evaluated as provided in the Development Distribution Analysis Report. Then a number of changes to Sketch Plan 1 policy were introduced to test the possibility of alternative patterns of development distribution, employment opportunities, levels of community facilities and preservation of open spaces. Combinations of these changes were incorporated into what were called Sketch Plans 2, 3 and 4. These alternative policies and their development consequences and implications were then reviewed with the Planning Commission prior to consideration of a preliminary General Plan.

Preliminary General Plan

Based on review of the Sketch Plan alternatives with special

interest groups and the Planning Commission, the Staff prepared a Preliminary General Plan built upon Sketch Plan 1 policy described in the Sketch Plan Alternatives Report. Changes to Sketch Plan 1 were reflected in the Preliminary General Plan supplemental report and included in the Preliminary General Plan Diagram. The Preliminary General Plan was tested by the same simulation study technique used to allocate growth for the Sketch Plan alternatives, with consequences and implications compared to those alternatives.

The Preliminary General Plan was reviewed with most of the special interest groups listed in the objectives section of this description of the development process. At the same time more than 1,200 Preliminary General Plan Diagrams, 600 Sketch Plan Alternatives Reports, and 400 Preliminary General Plan reports were distributed publicly. The Preliminary General Plan was then ready for public hearings before the Planning Commission.

General Plan Public Hearings and Adoption

As required by State Planning Law, public hearings must be held by both the Planning Commission and the City Council before a General Plan has full policy status. This assures that all interested parties will have an opportunity to present viewpoints about the plan policies affecting their home, job and community.

The Planning Commission held four public hearing meetings, three study sessions and one field trip before adopting the General Plan in July, 1969. Summaries of public testimony received and major issues discussed were provided for both the Planning Commission and the public prior to final adoption. A similar process was conducted by the City Council who held five public hearing meetings and numerous study sessions before adopting the General Plan in September, 1971.

Once adopted, the General Plan should be used as the general policy guide for decisions relating to the development and conservation of the City. Because it is a general policy document, other more detailed policies based on the General Plan are needed to ensure its implementation.

Plan Implementation

As discussed in greater detail in Appendix 6, the following short range and specific policy documents must be re-evaluated and updated based on the revised General Plan: Zoning Regulations, Subdivision Regulations, Capital Improvement Program, and Park and Recreation Master Plan, and the Streets and Highways Plan. Policy for the Housing and Community Design elements of the General Plan will have to be provided in greater detail and with increased community participation during the next few years.

In some situations new specific policies will be needed to ampli-

fy and help implement the General Plan. Establishing a Workable Program for Urban Renewal and a long range community renewal plan provide two examples.

Equally as important as revision of plan implementation regulations and creation of new plan implementation policies, is the day-to-day use of the revised General Plan in decisions made by the City Staff, the Commissions, the City Council, other public agencies, and private individuals and groups. At the same time these participants in the development and conservation process are making use of Plan policy they are influencing and seeking changes to that policy; and it is this pressure for change that makes annual review of City policy necessary.

Annual Review

As described in greater detail in the Planning Information System report, annual review of the General Plan should be each fiscal year with a review of the building permit activity, development trends, zoning decisions and their implications for changes to the General Plan. This data gathering and Staff analysis should then be reviewed publicly with the Planning Commission and recommendations, if any, for changes to General Plan policy forwarded to the City Council for review and adoption as modified. A summary of the basic data, analysis and Plan changes should be combined with a description of the Planning Function activity for the preceding fiscal year and presented in an annual report to the public shortly after the end of the calendar year. The 1968-1969 Annual Report to the Planning Commission and City Council by Staff was an experiment in this direction in anticipation of adoption of the General Plan and future annual reviews and reports.

Many of the annual review changes to the General Plan are minor and fragmentary in that they are either in response to changes in zoning that have taken place during the preceding year that were not in conformance with the Plan, or reflect response to obvious trends that cannot be fully evaluated in comparison to other more subtle and longer range trends. Due to the above circumstances it is necessary to conduct periodic major revisions to the General Plan.

Major Revisions To The General Plan

Many communities try to undertake studies for major revision to the General Plan every five years. As admirable and desirable an effort as this may seem, it is very difficult for a community the size of Walnut Creek to obtain the necessary data and conduct such a comprehensive study twice every decade. If the annual reviews and reports are consistently and thoroughly pursued, major revisions might be undertaken every ten years based on data obtained from the U. S. Census. In the intervening period, goals can be re-evaluated, individual elements of the Plan can be analyzed, expanded and updated, and special area plan studies undertaken.

GENERAL PLAN GOALS

THE GENERAL PLAN

The General Plan, as adopted by the Planning Commission in 1969* and the City Council in 1971,** and with annual amendments thereafter, contains ten major elements: Land Use, Circulation, Open Space, Housing, Community Design, Recreation, Conservation, Seismic Safety, Safety, and Scenic Corridors. The General Plan policy, which is intended to guide the development and conservation of the community, is portrayed in three interrelated parts: statements of objectives, principles and standards; policy description; and Plan Diagram.

OBJECTIVES, PRINCIPLES AND STANDARDS

A general description of community-wide objectives is first provided. This is followed by more specific objectives, principles and standards that have been synthesized by the Planning Division of the Community Development Department, Planning Commission, and City Council from current City policies, statements of special interest groups and individuals at public hearings and meetings, generally accepted planning principles pertinent to Walnut Creek, and analysis of projected trends and desires.

It is expected that the objectives section will be modified and expanded as the work of the Goals Committee is completed and referred to the Planning Commission and City Council for consideration. The lists of planning principles is comprehensive but should be reviewed annually to reflect contemporary changes in the planning field. The list of standards is minimal and much work needs to be done in research, analysis and development of additional standards to use as quantitative guidelines for the development and conservation of Walnut Creek's resources.

OBJECTIVES

General

A strong desire for providing a high environmental quality is prevalent in Walnut Creek that is expressed in the residential, commercial and the institutional sectors of the community. Although each sector has its own objectives, there is a mutual awareness of the interdependence of goals and the need to join forces to provide an attractive total environment embracing one's place of residence, employment, shopping and services, education, acculturation and recreation. The adequate linkage and spatial articulation of these activity areas is of equal importance. The general statements of community objectives listed below are provided as a frame of reference for the more specific objectives relating to each of the five elements of the General Plan that follow:

1. To accommodate that portion of the projected population growth of Contra Costa County and the Bay Region which reasonably can be accommodated in Walnut Creek based on past and future physical, social and economic characteristics of the Planning Area.
2. To provide an orderly, functional and compatible land use pattern to guide development of the community over the next 20 years.

* Planning Commission Resolution No. 960, July 22, 1969.

** City Council Resolution No. 2699, September 20, 1971.

3. To prevent deterioration and blight of existing development through conservation and rehabilitation of stable residential and commercial areas.
4. To provide for the orderly, functional and compatible redevelopment of areas that no longer are physically sound, socially acceptable, or economically productive.
5. To provide a comprehensive open space framework for conserving our natural resources, enhancing the visual amenity of the community and supporting more extensive leisure activity.
6. To provide a safe, expedient, functional and compatible circulation system offering a broad choice of mode of travel.
7. To provide a broad choice of types and price ranges of housing.
8. To enhance the identity, imageability and visual attractiveness of the community.
9. To accommodate the need for additional public facilities and expanding social programs generated by a growing suburban community.
10. To provide a sufficient economic base to meet the financial requirements programmed for the next six years and envisioned over the next 20 years.

Land Use

Residential

1. To conserve and expand stable and identifiable residential areas that can be conveniently served by schools, parks, shopping centers and other community facilities.
2. To provide residential densities that are compatible with existing development, yet responsive to the needs for additional and varied housing placed upon the Walnut Creek area.

Community Facilities

1. To recommend the number and general location of new school sites deemed necessary to meet the projected school enrollment based on school district standards and dwelling type characteristics.
2. To encourage the location of additional church sites and other private institutional sites where they can best

meet the needs of the portion of the community they are intended to serve without adversely affecting adjoining areas.

3. To provide for the orderly expansion of the two existing major hospitals and to accommodate other related health facilities in distinctive areas.
4. To provide an identifiable and attractive civic center complex to meet the long range governmental and cultural needs of the community, and to reflect Walnut Creek's focal role in the Central Contra Costa County.
5. To provide for the expansion of the main City Library and to recommend general locations for establishing community branch library facilities within the Planning Area.
6. To recommend general locations for establishing additional fire stations to serve expanding residential areas.
7. To provide a comprehensive system of parks and playground facilities to meet both the active and passive recreation and leisure time needs of the community.

Commercial

1. To expand and enhance the Central Commercial District within an identifiable, functional and pedestrian-oriented urban setting.
2. To provide well-defined automobile-oriented service commercial areas auxiliary to the Central Commercial District.
3. To provide general commercial areas for supportive uses such as warehousing, distribution facilities and storage areas.
4. To enhance Walnut Creek's subregional position as the administrative and professional office center of Central Contra Costa County.
5. To strengthen and enhance Walnut Creek's position as a subregional retail shopping center.
6. To provide neighborhood and community shopping centers to meet the local convenience needs of the City's residential areas.
7. To provide for the orderly expansion of the existing office, research and limited development employment center within a parklike setting.

Industrial

1. That the major industrial needs of Central Contra Costa County can best be met outside of the Walnut Creek Planning Area.

2. That specific local industrial uses necessary to the development of the community be conditionally accommodated within either general commercial areas or the research and limited development center as appropriate.

Utilities

1. To ensure that utility areas are visually and functionally compatible with adjoining land uses.
2. To accommodate power transmission lines in a both safe and attractive manner.
3. To maximize multiple use of utility rights-of-way and easements.

Open Space

Managed Resource Production

1. To retain the extensive grazing lands on the western slopes of Mount Diablo during the time span of the General Plan.
2. To provide for the orderly staging of transition of other ranch and agricultural areas to residential use over the planning period.

Parks and Recreation Facilities

1. To integrate existing and proposed parks, school playgrounds, golf courses and other recreation facilities into the comprehensive open space system both visually and functionally.
2. To provide public vantage points in the hill areas where outstanding panoramic views of the community are available.

Open Space Corridors

1. To make multiple use of man-made corridors such as utility rights-of-way and easements for recreational and circulation purposes.
2. To beautify man-made corridors where they are publicly used or viewed.
3. To preserve the essential characteristics of natural corridors such as creekways and to use them for pedestrian, equestrian and cycling links to public facilities where possible.

Open Space Preserves

1. To conserve significant natural features such as creekways, steep sideslopes and ridges, rock outcroppings, and dense tree cover.
2. To include park and recreation areas in a system of permanent open spaces.
3. To give shape and identity to residential and commercial areas.
4. To protect valuable watersheds that minimize storm runoff and soil erosion.

Circulation

Road System

1. To recommend a general corridor location for the extension of State Freeway 24 that will minimize the adverse effect on adjoining residential areas, yet provide reasonable access to the Core Area and Central County.
2. To expand the local arterial and expressway system to accommodate the through traffic needs of the community.
3. To provide a collector street system to accommodate interneighborhood traffic.

Rail System

1. To minimize the conflict between vehicular traffic and railroad transportation.
2. To enhance the visual relationship between rail lines and adjoining land uses.
3. To make joint use of rail system rights-of-way for trail use where feasible.
4. To provide convenient access to identifiable and attractive rapid transit stations.

Bus System

1. To provide links to County and Regional bus systems.
2. To provide convenient service for those residents who are unable to use automobiles or rapid transit to meet their day-to-day needs.

Air System

1. To provide convenient access to regional airport facilities.

Pedestrian, Equestrian and Cycling Systems

1. To provide a comprehensive system of riding and hiking trails.
2. To provide a comprehensive system of cycling and pedestrian paths.

Housing

1. To provide for the continued development of a variety of types of dwellings to maximize choice on the part of future residents.
2. To continue local "open" housing policy which would oppose segregation in housing based on race, color or creed.
3. To encourage the development of housing to serve a broader range of middle income families.
4. To retain and redevelop stable residential areas throughout the community.
5. To provide housing to meet the varied needs of all age groups in the life cycle.

Community Design

1. To provide a clearer community identity.
2. To invoke a stronger image of the major elements that compose the community design fabric.
3. To create a more definitive visual contrast between inter-related functional areas.
4. To provide both visual harmony and variety within similar functional areas.

Conservation

1. To preserve those areas in their natural state that are determined to have significant vegetation and wildlife values.
2. To retain air and water resources for the health and safety of local residents.
3. To encourage the use of grazing as a productive use of the large bodies of open land.

PRINCIPLES

The following list of principles are intended to serve as guidelines for development and conservation of the Walnut Creek Planning Area in keeping with the objectives of the General Plan.

Land Use

Residential

1. The highest residential densities should be located in the Core Area.
2. Densities should decrease as distance from community facilities increases.
3. Densities should decrease as distance from major thoroughfares and transportation facilities increases.
4. Densities should decrease as slope increases.
5. Densities should decrease as the level of utility service decreases.
6. The average density of new residential development should be similar to the average density of existing adjoining development having similar locational characteristics, and where existing development is in keeping with current policy.
7. Flatlands should be developed prior to hill areas.
8. Lands in closer proximity to the Core Area, major community facilities and major thoroughfares should be developed prior to outlying areas.
9. Lands adjacent to developed areas should be developed prior to lands leaving major gaps in the development pattern.

Community Facilities

1. New elementary and intermediate schools should be located close to the center of the residential area that they are intended to serve, and should have direct access to a collector street.
2. High school service area boundaries and school district boundaries, where necessary, should be modified over time to provide more reasonable service within definite geographic and traffic limits.
3. Joint use should be made of school facilities after school hours for recreational and cultural programs intended to serve primarily the same residential area served by the school.
4. Private schools, churches and similar institutional facilities should be located on the edge of residential areas

and should have frontage on major collector or arterial streets as they draw upon the larger community for their enrollments and congregations.

5. Land adjacent to the two existing major hospitals should be set aside for future hospital development and related health facilities.
6. The Walnut Creek Civic Center should be easily accessible to vehicular traffic from North Broadway and provide convenient pedestrian access from the adjoining apartment neighborhood and the Central Commercial District.
7. Both vertical and horizontal expansion of the central Walnut Creek Library should be provided for as an integrated part of the Civic Center complex.
8. Community branch libraries should be established as part of identifiable community centers where possible, and should be located close to a shopping center, a community park or a high school.
9. New fire stations should have access on major collector or arterial streets and should be close to the time-distance center of the area that they are intended to serve.
10. Neighborhood parks should be located either adjacent to, linked to, or part of an elementary school site, and in either case in joint use where possible.
11. Community parks should be provided to serve each of the five major residential areas within the Planning Area, and should be located as a part of a community center where possible.
12. The future Citywide park at Heather Farm, although having primary vehicular access from Ygnacio Valley Road, should be accessible from adjoining neighborhoods.
13. The City Golf Course should be served directly by a major collector street and make adequate provision for preservation of public views.
14. Regional recreational facilities should be set within a comprehensive open space system of parks and greenways, and should be served by streets of at least arterial function.
15. The future westerly expansion of Mount Diablo State Park should be further enhanced by provision of open space uses on adjacent foothill lands.

Commercial

1. High intensity (pedestrian oriented) retail, office, cultural and entertainment uses should be contained within the Central Commercial District, supported by multi-level parking structures, first and second level pedestrian ways, and ground level public open space.
2. Service commercial areas (automobile oriented) should have direct access to arterial streets, yet should not be so excessively stripped along those thoroughfares that functional identity and imageability are diminished.
3. General Commercial areas should be located close to the Central Commercial District and the service commercial areas, but do not need direct frontage on major arterial roads.
4. In addition to locations in and adjacent to the Central Commercial District, office facilities should be distributed adjacent to significant community facilities such as the Civic Center, rapid transit stations, hospitals and shopping centers.
5. Neighborhood and community shopping centers should be provided on the edge of existing residential areas and located on roads of arterial or expressway function.
6. In large planned unit developments in the hill areas, small neighborhood shopping centers should be considered where they would primarily serve the new residential area being developed.
7. Sufficient landscaping should be provided on all four sides of the research and development employment center in order to ensure its visual and functional compatibility with the adjoining residential areas.
8. Access to the employment center should not be provided through residential areas.

Utilities

1. Utility areas should be made compatible with adjoining land use areas through provision of landscaping, fencing, and open space buffers.
2. All new power transmission lines should be placed underground where technically feasible, and conversion of existing overhead lines to underground lines should be provided for in a comprehensive and long range program.
3. Utility rights-of-way and easements should be considered

for riding and hiking and cycling and pedestrian trail use where they can safely be incorporated into the comprehensive open space system.

Parks and Recreation Facilities

1. Greenways containing roads, trails, and paths should be provided to link park and recreation facilities and to provide access from the residential areas they are intended to serve.
2. Where outstanding views of the Walnut Creek area exist, roadside, or greenway vantage points should be provided for public use.
3. Utility rights-of-way that are safe and can provide trails for recreation use and as links to other community facilities should be open for joint use where a public agency is willing to assume responsibility for maintenance and liability.
4. Emphasis in the park system should be placed on the larger community and City-wide parks which are in need of expansion in both size and number.
5. A community park should be located in each area of the City and serve as a center of local activity and as a source of community pride.
6. Neighborhood parks are of a high priority in areas not conveniently located near schools and where higher densities would indicate substantial use of such a facility.
7. The school park concept should be continued; and, where justified, expansion of existing facilities is strongly recommended.
8. In order to acquire needed park acreage, it is important that available funds be balanced between land acquisition and development priorities.
9. The costs of acquiring, developing, and maintaining existing and future parks should be shared, where possible, by residents of the entire Planning Area.
10. In order to maximize the use of limited park acreage, facilities not directly related to recreational uses should be located off park lands.
11. It is important that parks provide visual contrast to their surroundings and thus should not be excessively cluttered with buildings and parking lots.

OPEN SPACE

1. The most critical open space areas in need of preservation are the ridges, especially Shell Ridge, Acalanes, Sugarloaf, Lime Ridge, Las Trampas Ridge, and the minor ridges adjacent to Shell Ridge. Other important elements of open space within the Planning Area are the remaining natural creeks and the green areas (in particular Civic Park) located in the Core Area of the City.

2. Because of its rapid disappearance, open space preservation should be the first and over-riding priority of the City's General Plan.
3. In order of priority, open space areas should be preserved on the basis of their suitability for the following purposes: (1) scenic beauty; (2) plant and wildlife preservation; (3) protection of natural resources, especially air and water quality; and (4) public safety.
4. Some limited single-family development could be allowed within various specific areas and hillside land as defined by this plan and further more detailed plans only when such projects result in the preservation of significant amounts of open space.
5. With the exception of those lands to be retained in private ownership, public access by pedestrians should be encouraged where open space lands are of value for recreational purposes.
6. Ownership of open space lands in large hill area developments should remain with the project's homeowner association, except in the case where public ownership or access is desirable or necessary.
7. In order to ensure that both the benefits and the costs of an open space acquisition program are equitably distributed, the financing of such a program should be accomplished through a special county service area or zone coinciding with the limits of the Walnut Creek Planning Area.
8. No road should be allowed to bisect open space lands since this would substantially reduce the amenities of the site in terms of diminished wildlife values, increased noise, less of a feeling of "getting away from it all," and loss of visual qualities.
9. The density on those portions of hillside parcels that are appropriate for urban development should be compatible with existing development in the adjacent areas.
10. Grazing lands adjacent to Mount Diablo State Park should be included in an Open Space Preserve that would ensure their retention during the foreseeable future.
11. Where sufficient land can be provided to ensure public safety, natural corridors such as creekways and their contiguous tree cover should be preserved as permanent open space.

CONSERVATION

1. Major areas of natural vegetation should be preserved because of their beneficial effect upon air quality.
2. Open space preservation should stress the continuity of such areas in order to provide for wildlife corridors which will help to maintain the existing wildlife values.

3. Stock ponds and natural streams both year around and seasonal are critical to the maintenance of the existing eco-system and should be protected from destruction.
4. Agricultural preserves should be established along Lime Ridge and considered for areas with similar characteristics in order to protect and maintain existing agricultural uses.
5. Managed grazing of grass lands should be promoted to minimize the fire hazards of such areas.
6. Mineral extraction is not a desirable land use in the Walnut Creek area because of its adverse impact upon the existing community and because better alternate sources for rock, sand, and gravel are available within the region.

CIRCULATION

Road System

1. Arterial roads and expressways designed to accommodate projected inter-community and inter-City traffic should be provided on the edge of identifiable residential areas and should be spaced in a network that will allow neighborhood levels of activity to function without undue cross conflict.
2. The collector street system should be designed to connect local residential areas to each other and to the major thoroughfare system, yet should discourage usage by inter-City traffic.

Rail Systems

1. No new railroad crossings should be created unless they are grade-separated from the rail line.
2. Existing arterial roads and expressways should be converted to grade-separated crossings when conflict of mode of circulation is anticipated on a daily basis.
3. All rail line rights-of-way should have linear landscaping to serve as a screen to adjoining land use areas.
4. Portions of rail line rights-of-way should be used for riding and hiking trails where they can safely and effectively be screened off from the traveled way, and where they can be integrated with the regional riding and hiking trail system.
5. The rapid transit station area should be the focal point of an integrated transportation center providing places for transfer of mode of travel for rail line, automobiles, busses, helicopters, motorcycles, bicycles, and pedestrians; each having an identifiable pattern of ingress and egress.

Bus System

1. A Central County bus system should link the major shopping centers, civic centers, other major community facilities and rapid transit stations and employment centers with the central suburban area, although not necessarily on a conventional schedule and routine basis.

2. A local dial-a-car system should be tested within the Planning Area that could connect the rapid transit station, the Civic Center, the northern and southern ends of the Central Commercial District, the hospitals and other community facilities with local residential areas.

Air System

1. To provide public helistop service as part of an integrated transportation center at the rapid transit station that would link Walnut Creek with the major regional airports.

Pedestrian, Equestrian and Cycling Trail System

1. Public greenways should be provided to contain riding and hiking trails and cycling and pedestrian paths at the regional, citywide and community levels.
2. These trails and paths should be used to link park and recreation facilities, schools, and other community facilities.

Housing

1. A full range of residential densities should be provided that, while indicating the primary dwelling type characteristic of each particular density range, would not preclude the incorporation of other dwelling types within a given range.
2. The housing needs of the labor force generated by the existing and future employment centers within Central County should primarily be met on a Central County basis, with the cost of housing decreasing as the distance from the centers decreases.
3. The County rent subsidy program should continue to be supported in Walnut Creek where adequate housing is not available at all major job levels represented in the Walnut Creek employment structure.
4. A long range community renewal program should be undertaken that would identify residential areas that should be conserved, rehabilitated or redeveloped during the planning period depending on the physical condition of a given residential area.
5. Varied housing should be provided within Walnut Creek to meet the distinctive needs of young unmarried adults, young married adults without children, families with preschool children, families with school age children, older families without children living at home, older single adults and senior adults.

Community Design

1. In our natural hill area setting, man made forms should be complementary to natural forms.

2. In the predominantly man made setting of the Core Area, ²⁻¹⁴ natural forms should be complementary to man made forms.
3. In the intervening suburban residential areas, man made forms and natural forms should be balanced.
4. Although no longer completely valid in the sociological sense, the neighborhood can be considered as a basic unit of community design in terms of:
 - a. Utilizing the elementary school as the focal point of the neighborhood.
 - b. Providing neighborhood park and recreation facilities in conjunction with the elementary school and in providing greenway linkages to the active play areas from more distant portions of the neighborhood and from passive recreation areas.
 - c. Providing local convenience shopping and service centers as part of large planned unit developments.
 - d. Designing a local street system that will discourage the routing of through traffic within neighborhood areas.
 - e. Determination of the variety of dwelling types and densities that should be provided within a given area.
5. Designation of visually and functionally identifiable community areas is helpful in terms of:
 - a. Identifying the primary service area of local high schools and establishing them as community centers.
 - b. Establishing the spatial allocation of community parks and shopping centers.
 - c. Establishing the location of major thoroughfares on the edge of community areas where possible.
 - d. Retaining significant hillside features to define the edge of a community area.
6. Designation of a Core Area provides a sense of place for the City's:
 - a. Central Commercial District that is easily accessible from Central Contra Costa County and identifiable from the freeways and ridgelines.
 - b. Supportive commercial facilities on the edges of the Central Commercial District providing a low profile in contrast to the high rise structures that will identify the office sections of the Central Commercial District.
 - c. The Walnut Creek Civic Center that will serve as a governmental and cultural center for the community and as a major focal point of the Core Area.

- d. Identifiable high density residential neighborhoods that will be within walking distance of most Core Area facilities.
 - e. A hospital complex that is visible as a focal point from the freeway that connects it with the Central County community that it serves.
 - f. The Walnut Creek Rapid Transit Station that will serve as a transportation center for the community and provide an identifiable and attractive point of entry to the community for visitor and commuter.
7. Functional areas should be scaled to the mode of travel that serves them whether the latter be pedestrian, cycling, riding, hiking, bus, automobile travel or rapid transit.
8. General principles relating to the major components of a community design element are provided below:
- a. Major Focal Points should have a clear form in contrast with their background to serve as identifiable landmarks within the community.
 - b. Major Centers should dominate over the adjoining area in terms of size, intensity of use, prominence of form and provision of common open space.
 - c. Major Entries to the community should be attractive, clearly defined, and provide a strong sense of direction.
 - d. Major Vantage Points should be accessible to the public from major thoroughfares or trails where sweeping views of the form of the community are revealed.
 - e. Identifiable Developed Areas should be visually clarified by major man-made paths such as arterial roads and by significant natural features such as ridges.
 - f. Significant Open Space Areas should be used to contrast and to delineate developed areas.
 - g. Separators should be used to define the edge of identifiable developed areas.

- h. Integrators should be used to connect developed areas, centers and focal points.
- i. Edges of developed areas and open space areas should be clearly defined as a transition from area forms to linear forms occurs.

STANDARDS

The following quantitative standards are initially suggested in conjunction with the General Plan to aid in its interpretation and serve as a guide for its eventual implementation. New standards should be added as results of more detailed studies are made available.

Land Use

<u>Residential</u>		<u>Density Ranges</u>	
<u>Primary Dwelling Type</u>	<u>Density Category</u>	<u>Dwelling Units/Ac.</u>	<u>Population/Ac.</u>
Single Family	Open	Up to 1	0-5
	Low	1 - 2.5	5-10
	Medium	2.5-4	10-15
	High	4 - 7	15-20
Multiple Family	Low	7 - 12	20-30
	Medium	12-22	25-45
	High	22-30	40-60
	Highrise	30-50	55-100

Community Facilities

1. School Enrollment

<u>Type of School</u>	<u>Enrollment by School District</u>		
	<u>Walnut Creek</u>	<u>Mount Diablo</u>	<u>Acalanes</u>
Elementary	400-600	600-900	---
Intermediate	500-700	900-1100	---
High	---	1500-2000	1400-1600

2. Park & Recreation

General Standard: Minimum of 5 acres of park or playground land per 1,000 population.

		<u>Acreage</u>
a. Neighborhood	2-1/2 acres/1,000	Minimum 5 acres*
b. Community	2-1/2 acres/1,000	Minimum 20 acres*
c. City-wide		75-100 Acres
	5 acres/1,000 population	

*Two acres is sufficient for a neighborhood park if located adjacent to a school playfield. Ten acres is the minimum for community parks located adjacent to an intermediate or high school.

3. Library Facilities - 500 square feet/1,000 population.

Commercial

1. Shopping Centers: 1 acre/1,000 population for convenience shopping centers.

3 acres minimum - 12 acres maximum

Employment

1. Employment within the Planning Area should represent about 20% of the total Planning Area population or at least 40% of the Planning Area labor force by 1990.

Circulation

<u>Road System</u>	<u>Minimum Right-of-Way</u>	
	<u>Conventional</u>	<u>Hill Areas</u>
1. Expressway (major thoroughfare)	112	---
2. Arterial	84	64
3. Collector	60	38
4. Local residential	50	34

Housing

1. To provide the following approximate balance by 1990:

Single Family dwelling units	50-55% (Detached & Attached)
Multiple Family dwelling units	25-30%
Rossmoor dwelling units	20%

GENERAL PLAN LAND USE ELEMENT

GENERAL PLAN ELEMENTS

POLICY DESCRIPTION

A descriptive summary of General Plan policies for each of the ten major elements of land use, circulation, open space, community design, housing, conservation, recreation, seismic safety, safety, and scenic corridors are provided below. Where applicable, the policies are described within the three time periods used in the General Plan revision studies (short range, 1970-1975), middle range (1975-1980), and (long range, 1980-1990) and as graphically portrayed on the Development Staging Diagram.

Land Use

Land use policies include the spatial distribution, type of activities, intensity of development, population density, timing and interrelationships of various uses of the land within the Planning Area. A brief description of each land use category is provided below and supplemented graphically on the General Plan Diagram and quantitatively in the Appendix on Page A-2. Examples of cluster development contrasted with conventional developments are provided for each density range in Appendix 1.

DEVELOPMENT STAGING DIAGRAM

AS REVISED 5/11/77



Residential

Residential land use is divided into the two traditional major dwelling type categories of single family and multiple family. There are four categories and sets of density ranges for each dwelling type.

1. Single Family - Most of the existing development in the single family category has the characteristics of providing detached dwelling units and being owner occupied. It is quite evident however that, during the planning period, cluster developments, in both the flatlands and in the hill areas, will provide attached dwelling units within the single family density ranges that are owner occupied. At the same time, as the existing housing stock ages there will most likely be an increased trend toward the renting of older detached single family dwellings. The four density categories within the single family dwelling type category are described below:

Open (Up to 1 dwelling unit/gross acre)

This category is intended to provide residential areas that are identified by their open space character rather than their structural character. These areas are generally characterized by their distance from major thoroughfares, community facilities and the Core Area as they are usually on the edge of the suburbanizing area. Although few of the existing open residential areas can be expected to withstand the pressure for suburban development over the 20 year planning period, they can accommodate a desirable lifestyle for a portion of the community during the transitional stages of the planning period if identifiable areas are established with the backing of the majority of the property owners in the area. In providing at least an acre of land for each parcel, the open space activities of raising proportionate numbers of horses, dogs, farm animals, and crops can be pursued without adversely affecting suburban development in the middle and long range portions of the planning period.

Low Density (1 to 2.5 dwelling units/gross acre)

Areas designated in this category include existing development on varied terrain, a few existing large lot areas in the flatlands, and much of the undeveloped hill areas that are within reasonable distance of community facilities and major thoroughfares.

During the first time period, 1970-1975, most of the low density development is confined to existing areas as much of the hill area is recommended to be held in the Open

Reserve category. By 1980 density areas have been indicated for development in the closer hill areas where roads, utilities and community facilities can then be readily provided. By 1990 low density single family residential development has been indicated to extend easterly to the Livorna Road extension to Castle Rock Road, and southerly from Ygnacio Valley Road toward North Gate Road. The low density area in the Acalanes community reflects hill area terrain of average slopes of 15% or greater. The remaining low density areas represent the filling in process where the existing pattern has already been established for detached homes on large lots. In order to preserve much of the hill areas, the greater majority of dwelling units in the hill areas will most likely be clustered and attached.

"Senior citizen housing can be considered as an alternate use on the properties adjacent to the Unitarian Church on Eckley Lane. Development proposals for senior housing on this site should be processed subject to public hearing, allowing the opportunity to consider a proposed project as to its appropriateness for the site. Consideration should be given to compatibility with surrounding uses, density, parking and design.*

Medium Density (2.5 to 4.0 dwelling units/gross acre)

This category is provided primarily to accommodate subdivision development on the valley floors. The patterns have already been established in most of the medium density areas with the General Plan providing a suggestion of boundaries for the more conventional flatland subdivision development. In South Ygnacio Valley, where much of the remaining undeveloped flat land is located, most of the flatter lands have been indicated in this density range to meet the demands for additional subdivision activity. At the same time identifiable limits have been placed on suburban expansion in this area through the proposed long range retention of open residential lands east of North Gate Road and south of Pine Creek Road. These limits are fortified by the proposed transition to an Open Space Preserve south of the P. G. & E. power transmission line in the North Gate area. As depicted on the cluster diagram in Appendix 1, development can readily be clustered in this density range by slightly reducing the average lot size and providing common pathways and recreation areas. Dwelling units could be conventionally detached, or on a "zero-side yard" basis as depicted or attached.

High Density (4.0 to 7.0 dwelling units/gross acre)

The high density single family residential category encompasses a density range that, in the past in western suburban areas, has neither been translated into single family nor multiple family development in a positive manner. With the present-day cost of lower density, detached owner-occupied single family homes becoming prohibitive in Walnut Creek for more than 90% of the population, and with a few large parcels remaining for development on flat lands in Walnut Creek, the need for this category became evident during the course of the General Plan revision studies. Because development in this density

range is still relatively unique to Walnut Creek and the Bay Area the following characteristics envisioned are summarized below:

Physical Characteristics Envisioned

1. Primarily attached dwelling units.
2. Combinations of one and two story patio houses and town houses.
3. Private secluded patio areas and/or balconies.
4. Dwelling units clustered within a common open space system.
5. Open space systems providing space for cycling paths, pedestrian paths, equestrian paths, lawn areas and facilities for informal active recreational pursuits, secluded landscaped areas for passive leisure, land left in its natural state and combinations of the aforementioned.
6. Extensive use of public cul de sac streets, private driveways and clustered parking areas.
7. Close proximity to major thoroughfares and community facilities including parks, shopping centers, and schools where appropriate.

Social Characteristics Envisioned

1. Owner occupancy.
2. Family-oriented.
3. Varied family size (ranging from 2 to 4 persons/dwelling unit).
4. Appealing primarily, but not exclusively to families with teenagers, pre-school children or no children.
5. Appealing to families who prefer recreational and cultural pursuits to extensive gardening and landscape maintenance.

Economic Characteristics Envisioned

1. Dwelling units competing in the same price range as single family detached homes in the general area, but
2. Providing the opportunity for offering a broader dwelling cost range, thus

3. Potentially drawing families having more varied incomes sources of income and consumer habits.
4. Drawing partially from the rental housing market by attracting those people who could afford home ownership, but, for various reasons, do not find single family detached homes suited to their current needs.
5. Accrual of equal or more property tax revenue in support of City and County government compared to lower density detached single family dwellings, while requiring about the same level of community services.

San Marco is also developing attached single family homes within this density range and it is expected that the adjoining land next to Shell Ridge will be developed in a similar manner. The Heather Farm area is generally proposed for this density range, although 600 of the 1,000 total dwelling units anticipated will be apartments rather than attached single family homes.

"One area in which the "high-density, single-family" classification has been applied is Rossmoor. The characteristics of this community differ in many aspects from other developments which fall into this General Plan category. Rossmoor is distinguished primarily because of its larger scale, its orientation to the older segment of the housing market population, its extensive private recreation facilities, and its unique style of development.

It is expected that Rossmoor will continue to grow incrementally according to the provisions outlined in the Planned Development zoning for this community. A maximum of 7,350 dwellings are expected to be constructed along with an extensive complex of recreational facilities. Because of large amounts of open space to be preserved and the variation in densities within Rossmoor, individual projects may exceed the 4.0 to 7.0 units/acre range. As applied to the Rossmoor community the "High density, single family, 4.0 to 7.0 dwelling units/acre" category is intended to reflect a general development concept and should be interpreted broadly.

Continued development of the Rossmoor community will not occur without some significant environmental impacts. In the steeper hillside areas, it is expected that both grading and tree removal will be more extensive than other areas in Walnut Creek. The development concept envisioned for the Rossmoor community differs significantly from the concepts expressed for the remainder of Walnut Creek. Rossmoor involves extensive construction in hillside areas but has essentially retained the flatter portions of the site for open space purposes. The development concept expressed in the Land Use Diagram has reflected this distinction in land use policy. Although home construction has been precluded from the most visible and valuable portions of the ridge, some portions of the ridge line are expected to undergo development.

In the area located west of Stanley Dollar Drive and encompassing the Ptarmigan knoll, known as Neighborhood 2 (North), the General Plan Land Use boundaries of open space areas and "High density, single family" areas should remain flexible. This flexibility is intended to enable the City to further define development boundaries once more specific environmental and planning analysis of the area is performed. However, the total developable land in this area should not exceed 43 acres. *

The Sky West portion of another high density single family residential area is presently being developed on the south side of Pleasant Hill Road near its intersection with Taylor Boulevard. This attached dwelling project will yield 187 units when completed, with an additional 180 to 210 dwelling units envisioned on nearby developable lands. The balance of the neighborhood will probably be retained in its lower density single family character throughout the planning period.

Only one undeveloped high density single family area has been adopted on the revised General Plan as three proposed areas in Ygnacio Valley were deleted from the Plan due to strong community opposition to this type of lifestyle and density range. Approximately 50 acres surrounding the Rossmoor Shopping Center has been indicated for this density range and reflects recently approved zoning on this parcel that is close to community facilities and major thoroughfares.

2. Multiple Family - Generally, the higher density multiple family development is contained within the Core Area, medium densities adjacent to the Core on flat land, and low densities in selected outlying residential areas. To date the greater majority of multiple family residential dwellings have been renter-occupied, however, it is expected that owner-occupied dwellings in the multiple family density ranges will become more prevalent in the future and should be encouraged.

Low Density (7-12 Dwelling Units/Acre)

This is a category that was created by the City in order to encourage lower densities in the high density single family category; and to establish a new very low density multiple family residential category that could be established adjacent to existing single family neighborhoods in a compatible manner. The category would most likely include both renter and owner occupied dwelling units, with the latter prevailing if contemporary development trends continue. The category would also accommodate the conventional duplex type developments that are found adjacent to single family neighborhoods.

Because it is a recently created category there are few areas that the City has designated for this use on the adopted General Plan; and potential areas should be studied in forthcoming annual reviews of the General Plan.

One low density multiple family area that is reflected on the Plan is just beginning to be developed on the north and south sides of Treat Boulevard west of Bancroft Road in the unincorporated area. The Plan consistently reflects an expansion of this density of development southwardly towards Ygnacio Valley Road and adjacent to the 67-acre park at Heather Farm. Development in this density range should make it possible to provide greenways to the City Park as well as provide recreation facilities to compliment the areawide public facilities.

"The frontage on the east side of Buena Vista Avenue between Alvarado Avenue and Parkside Drive may remain Single Family if it is found through environmental studies that there are adverse traffic impacts which cannot be adequately mitigated."*

The medium density category accommodates primarily single story patio houses at the low end of the density range, combinations of patio units and two story townhouses in the middle densities, and two story townhouses and apartment complexes at the higher densities. These types of dwellings are found both on the edge of the Core Area adjacent to single family neighborhoods, and in selected outlying community locations. What started as a conventional four-plex venture after World War II now provides opportunities for garden apartment living with the full range of recreational and open space amenities in the newer projects.

High Density (22-30 Dwelling Units/Acre)

Most of the development in this category has taken place adjacent to the Core Area as redevelopment has expanded outward from the downtown commercial area. Development

in this density range is usually completely of a two-story nature and in the form of larger apartment complexes. Designs in this category have been upgraded in recent years with the provision of private balconies and patios, more parking, and common recreation facilities. A new area that will be developing in this density range is the northern portion of the Walden Area where residents have supported this type of development near the Pleasant Hill Rapid Transit Station on a Planned Development basis where high site planning and design guidelines can be adhered to.

High Rise (30-50 Dwelling Units/Acre)

In the past this category has primarily accommodated the highest density apartment complex permitted in Walnut Creek in a conventional manner. The General Plan policy encourages planned developments throughout this density range with emphasis placed on provision of common open space systems, recreation facilities, private patios and balconies, and variety of dwelling type and height. It remains to be seen whether or not it will be economically feasible to develop high rise housing within this dwelling unit density range, and consideration will be given to projects that may exceed the dwelling unit range, but still fall within the desired population density range. Three of these high rise density areas already have been developed in Walnut Creek and none have been more than three stories in height. The Diablo Keys project currently being developed in the northern portion of the Core Area will be stepped back from two stories at the road to fifth story penthouses in the center of the project; and may reflect a sign of higher rise structures to come at this end of the Core Area where vacant or redevelopable land is available. High rise multiple family development is encouraged around the Walnut Creek BART Station, the Civic Center and the Kaiser Center; but not outside of the Core Area.

High rise residential projects are also encouraged as part of planned developments that accommodate mixed uses, and in redevelopment projects where small parcels of land are packaged into one project within the Core Area. This is especially the case in the Riviera Avenue "Golden Triangle" area and in the La Cassie-Trinity Area in the foreseeable future; and in the Almond-Shuey Area in the longer range future.

Commercial

Commercial land use is divided into six general categories that reflect either the predominant use or the locational characteristics of the activities including: central, office, service, general, shopping center, and research and development.

Commercial facilities are either located in the Core Area or in distinct outlying employment centers, limited highway strips and shopping centers.

1. Central - The Central Commercial District, as defined in greater detail in the Core Area Plan, consists of 120 net acres bounded by Ygnacio Valley Road, Civic Drive, Broadway, Newell Avenue, and California Boulevard. Within this heart of the Core Area the most intensive development and activity of the community should be accommodated including retail shops, offices, walk-in restaurants, cultural facilities, and related services. High density, high-rise facilities are encouraged where common parking structures are provided, public open spaces at ground level included, and where there is close proximity to the Civic Center, the BART Station or Kaiser Health Center. Drive-in facilities of a one-stop nature and having independent parking are to be discouraged within this area. Desirable future "superblocks" within the Central Commercial Area would contain loading and parking below ground level; parking, retail shops and public open space at ground and second levels; and offices above the first or second levels. Inclusion of high rise apartment complexes may be considered as part of planned developments where they are secondary to the commercial development, where adequate public and private open space is provided, and where related commercial facilities are provided.
2. Office - In addition to the Central Commercial District administrative and professional offices are encouraged in specific areas adjacent to the heart of the Core Area, in the Ygnacio Valley employment center, and in the Muir Health Center adjacent to Shell Ridge and in other selected outlying areas. The greater majority of finance, office and real estate activity should be located within the Core Area. Medical, dental, and other office facilities primarily serving one or two of the five residential communities in the Planning Area are provided in identifiable outlying areas.

"In a Muir Health Center, adjacent to Shell Ridge and La Casa Via, office land use designation on the parcel located at the southwest corner of Montego and La Casa Via does not preclude consideration of residential land uses on said parcel, similar to those adjacent uses to the west."*
3. Service - Commercial facilities primarily dealing in automobile-oriented services are encouraged to locate either in one of the three highway strip areas provided or in the service center area proposed north of Ygnacio Valley Road east of North Broadway. The three highway strip areas include: Camino Diablo from the El Curtola Overpass to Interstate Freeway 680; Mount Diablo Boulevard, from Interstate Freeway 680 to California Boulevard; and North Main Street generally from Ygnacio Valley Road to the freeway overpass, and from the overpass to Geary Road.

The types of use found in this category include: drive-in restaurants, car washes, service stations, laundry and dry

cleaning establishments, new car sales and service, used car sales and service and other similar auto-oriented uses.

The proposed service center bounded by Ygnacio Valley Road, North Broadway, Pine Street and Civic Drive was intended to contain an automotive center for new cars and related services for used cars. To date there has been a wide variety of uses developing in the area which may necessitate a re-evaluation of policy in the foreseeable future if the automotive center objective is not being fulfilled, on at least the northern portion of the block.

4. General - General commercial areas provide land for warehousing, storage and "heavier" commercial uses that involve limited manufacturing and cannot be located in other commercial districts. Two such areas are proposed in the General Plan: one, reflects the area adopted on the Larkey Area General Plan between Freeway 680 and Main Street; and the other is located in the superblock bounded by Ygnacio Valley Road, North Main Street, Pine Street and North Broadway. Generally, uses in these areas do not need direct frontage on major thoroughfares, and can be mixed in one superblock with service commercial uses that do desire such frontage.
5. Shopping Centers - Five existing shopping centers outside the Core Area are reflected on the General Plan. These centers range in size from 10 to 14 acres and provide a range in size from 87,000 to 175,000 square feet of floor area each. Except the shopping center at Oak Grove Road and Citrus Avenue, all shopping centers are substantially completed.

"When the Comprehensive General Plan was being considered in 1971, four outlying centers proposed in the preliminary plan were deleted from the final plan with a policy adopted that new outlying centers may be considered individually as part of large planned unit developments.

"Most of the existing shopping centers within the planning area are larger than a typical neighborhood center of six acres maximum and limited to convenience shopping, yet are smaller than the typical community center with its full range of services and retail facilities. Consideration should be given to revising the Zoning Ordinance to reflect the type of shopping center that has developed in Walnut Creek, a center of about 10 acres with a greater range of comparison shopping uses than is ordinarily found in a convenience shopping center."*

Amended by Resolution No. 3825

6. Research & Development - This category is intended to provide high quality employment centers in outlying areas to balance Core Area employment opportunities for research, administrative and professional office, and limited manufacturing uses that can meet the City's performance standards and be compatible with one's employment and residential neighbors.

The Ygnacio Valley employment center is intended to fulfill this function, and now has about 50 of its 270 acres in use providing about 1,000 jobs. When the center is completely developed a range of 5,000 to 8,000 job opportunities will be available to Walnut Creek and Central County residents.

With the balance of this land expected to be absorbed within the next ten years, continuing efforts should be made by the City to create additional identifiable employment centers for the longer range future.

"In Central, Office and General Commercial land use areas and in shopping centers, multifamily housing can be considered as an alternate or additional use. The need for additional multiple family housing is detailed in the Housing Element adopted in February 1978. The amount of undeveloped land zoned for multifamily development is limited, and there is a need for greater flexibility in the location of multifamily and mixed use development. Development proposals for multifamily housing in these commercial areas should be processed as a conditional use, allowing the opportunity to consider each proposed project on a case by case basis as to its appropriateness for the site. Consideration should be given to compatibility with surrounding uses, density, parking and design."*

ELECTIVE USES

"In addition to the Elective Use Areas as described in the Core Area Plan, the necessity exists for providing areas outside the Core where a combination of residential and commercial uses would be appropriate. There are instances where residential uses were developed along a major thoroughfare prior to annexation, or where commercial zoning has been applied in a formerly residential area, such as North Main Street north of Geary Road. It is the intention of the City that such areas develop into a compatible combination of residential and commercial uses. In general, any residential development in the area would be townhouses, apartments, or other attached housing, in the high density multiple family residential range.

"On North Main Street, north of Geary Road, there is an opportunity to depart from the conventional strip commercial type development and create a compatible mixture of retail, office and residential uses. The Elective Use category allows for this type of development. Any additional development permitted in the area should be compatible with the existing residential uses.

"Other areas of the City might benefit from this category of use area, and thus the Elective Use Area is established as an area that offers a

flexible opportunity to encourage residential and commercial uses in the same development, or adjacent development.

"As a general rule, implementation of this policy would be by using a planned development approach that is more concerned with performance standards of design, than the specific uses included in the district, with standards of setbacks, floor area ratios, lot coverage, landscaping, circulation, etc."*

Community Facilities

A summary of school, park and recreation and other community facilities accommodated in the General Plan is provided below:

1. School Facilities - Existing schools including the general location of building complexes and playgrounds are reflected by specific boundaries on the Plan Diagram, while proposed school sites are indicated by circular forms in the general areas of future need. As the City of Walnut Creek does not have jurisdiction for the provision of schools, but instead serves in an advisory capacity to the five school districts operating in the community, these proposals should be considered as general short and long range recommendations for providing school sites to meet the implication of projected growth and school enrollment.

In all new developments, emphasis should be placed on the joint use of school sites and adjacent City park lands, where obtainable, for educational, cultural and recreational purposes as focal points of neighborhood and community activity. It is anticipated that greater emphasis will be placed on "year round" and "day long" use of these facilities as the population increases by up to 80% over the next 20 years and as available open lands diminish. There are currently 17 elementary schools, four intermediate, and four high schools serving the Walnut Creek Planning Area represented by five separate school districts including: Mount Diablo Unified, Acalanes Union High School, Walnut Creek Elementary School, San Ramon Unified, and Lafayette Elementary.

General future needs are summarized below by the time periods simulated in the development distribution studies:

1970-1975

At least one new elementary school will be needed in the South Ygnacio Valley portion of the Mount Diablo Unified School district during this time period. The most logical location for this new site is in the Valley Vista Road area as generally depicted on the Plan Diagram. Depending on the rate of development in the Rudgear Road area, an elementary school site in the Franco-Vieira Ranches area may also be needed by the end of this time period or early in the next one. The new high school on Castle Rock Road in South Ygnacio Valley will have been completed by the fall of 1972, and will eventually primarily serve the community south of Ygnacio Valley Road. This will relieve the present burden at Ygnacio Valley High School.

1975-1980

As mentioned above, one new elementary school in the Rudgear Road portion of the Las Lomas area will probably

be needed during this time period. Elementary school sites will probably also be needed in North Ygnacio Valley near Heather Farm City Park and in South Ygnacio Valley near Pine Creek during this time period.

1980-1990

A second elementary school site will be needed in the hill portion of the Las Lomas community near Shell Ridge if portions of these hill areas are developed as projected. Such an elementary school may be considered jointly with the need for an intermediate school site during this long range time period. Expansion of Oak Grove Intermediate School or conversion to a three year junior high school present two alternatives for long range consideration in North Ygnacio Valley. The long range need for an intermediate school in the Acalanes community must be tempered by the difficulty of providing an additional elementary or intermediate school site in this area.

State College at Cowell

Although not within the Planning Area, it is expected that the State College at Cowell on the south side of Ygnacio Valley Road in Clayton Valley will be initially developed by 1980 and will be fully serving the 1,000,000 Contra Costa County residents by 1990.

2. Park and Recreation Facilities

As of August 1973, the Walnut Creek Planning Area had a total of 207 acres of park land. Based in the adopted park standard of five acres per one thousand people and a 1973 population of 75,000 in the Planning Area, Walnut Creek currently needs an additional 167 acres of park land. In order to meet demands for the 1990 population projections, 373 additional acres may be needed.

Park Standards

City-wide and Community Parks (Incl. High School Parks)	2.5 ac./1,000 pop.
Neighborhood Parks (Incl. Elementary School & Special Use)	2.5 ac./1,000 pop.
Total	5.0 ac./1,000 pop.

1973 Conditions

	<u>Number</u>	<u>Acreage</u>	<u>Acreage Deficiency</u>
City-wide & Community Parks	7	142	45
Neighborhood & Special Use Parks	20	65	122

1990 Projected Need

(Based on Anticipated 116,000 People)

City-wide & Community Parks	12	290
Neighborhood & Special Use Parks	46	290

Source: Adopted Park Standards, City of Walnut Creek

Walnut Creek's public park areas can be divided into four main categories: (1) major City-wide parks; (2) community parks; (3) neighborhood parks; and (4) special use parks and facilities. A summary of existing facilities and the functions of each category follows:

- (1) City-wide Parks. Heather Farms Park, a 75-acre site currently serves as the core of Walnut Creek's park and recreational facilities. Use of the park, even in its partially developed stages, is heavy. The City-wide park is designed to provide facilities of City-wide significance (such as the two lakes, equestrian arena, and Olympic size pool) with those traditionally found in large parks (such as ball fields, tennis courts, and community center), as well as some of the more passive landscaped areas.

However, Heather Farms, even when completed as currently planned, will have several inherent problems:

- a. Access to the site by bicycle at present is hazardous due to heavy traffic on Ygnacio Valley Road and nearby Bancroft Road. Use of the equestrian facility is also hampered by the difficulty and danger of riding to the arena. At present, no public transportation to the park exists.
 - b. The demand for facilities on Heather Farms cannot be met on even a 75-acre site. Attempting to satisfy only the needs for intense recreational facility enthusiasts would diminish areas designed for more passive uses.
 - c. Heather Farms is currently partially hidden from public view by a strip of commercial uses bordering Ygnacio Valley Road. Ideally, a City-wide park should be a center of community pride and identity, providing visual contrast to surrounding urban areas.
- (2) Community Parks. Community parks, such as Larkey Park, Civic Park, and Rudgear Park site, are intended to absorb much of the need for intensive recreational facilities from their surrounding neighborhoods.

Larkey Park, currently an 11-acre site bisected by a street and utility company right-of-way, is one of the few parks in Walnut Creek that has been substantially developed. The Junior Museum and model railroad buildings, both of which attract people from areas even outside the planning area, are headquartered in the park. The swimming pool, tennis courts, and passive picnic areas are in constant use.

Civic Park, located in the downtown area, sites the Park and Recreation Department office, the Senior Citizens' Center, the Civic Arts Workshops, and several other structures and outdoor facilities. The Walnut Creek flows through the 10-acre site but at present is not utilized for recreational purposes.

Rudgear Park, a 14-acre site, will help alleviate the recreational demands in southern Walnut Creek when constructed.

- (3) Neighborhood Parks. In addition to describing smaller passive park facilities, the term "neighborhood park" is used to label school parks. Walnut Creek currently has 18 neighborhood parks, 15 of which are integrated with school facilities. The Singer subdivision park, San Miguel Park, and the Pine Creek Park are at present the only independent neighborhood parks.

None of these three facilities meet the desired size of neighborhood parks (5 acres) and would be more accurately referred to as mini-parks. They have not been fully developed so a judgment as to their use and desirability is premature.

A brief analysis of the three sites follows:

- a. Singer Development Park. This park, yet to be developed, is well located within the subdivision and in relationship to the adjacent neighborhood. The size of the park and its proximity to the Foothill Intermediate School do conflict with adopted standards and may have an impact on the potential use of the park.
 - b. San Miguel Park. The San Miguel Park lies on the border between conventional subdivisions and vacant land which is rapidly developing into medical complexes. The amount of use of the park so far has been in direct proportion to the amount of development of the site.
 - c. Pine Creek Park and Greenway. It is anticipated that with development of the land east of the creek and completion of the park facilities that this park will be used frequently but not intensively.
- (4) School Facilities. The fifteen elementary and intermediate school sites which serve as the core of the neighborhood park system, contribute approximately 44 acres toward meeting park standards. In actuality, the land usable for recreational purposes is double that figure, but only one half of school play facilities are counted toward meeting park standards since much of the time facilities are in use and unavailable to the public.

In general, it can be said that the school park concept has been successful, but many school parks warrant an expansion of land.

- (5) Special Use Areas and Facilities. At present, the City has only three special use areas and facilities:
 - a. Heather Farms Golf Course. This recently completed facility is in need of minor improvements but generally serves the needs of golfers exceptionally well.

- b. Shadelands Museum. Shadelands is the only museum in Walnut Creek and is situated in a setting that is zoned for research and office purposes. The acquisition of additional land would be an asset to the character of this facility.
- c. Skymont Subdivision Park. This 10-acre site is intended for passive use as a nature, hiking, and picnicking facility. It is well suited for this purpose due to its vegetation and surrounding open space.

Regional Parks

The Las Trampas Regional Park site, anticipated to eventually contain as much as 2,000 hill area acres, is generally indicated on the Plan Diagram on the south side of Rossmoor. It is expected that much of the development would occur in the 1975-1980 time period and would primarily consist of riding and hiking trails, picnic and camping areas and more passive recreation facilities. Cars will probably be limited to the edge of the park with most of the area retained in its natural state.

Adjacent to the proposed Arroyo Del Cerro Regional Park is Castle Rock Park, a private regional recreation facility for picnicking, swimming, riding, baseball, and dancing that draws groups from all over the Bay Area.

State Park

A major westerly expansion of Mount Diablo State Park consisting of approximately 1,800 acres is indicated on the General Plan Diagram as shown in the Master Plan for the East Bay Regional Park District. At this time, the expansion follows arbitrary range lines and boundaries might be improved by following ridge lines that connect to North Gate Road.

3. Health Facilities - No new hospital sites are proposed in the General Plan policy to 1990. Adequate space exists for expansion of both the Kaiser and Muir Health Centers as proposed in the General Plan. Development at the Kaiser Center will most likely have to be vertical in nature, while there are still adequate vacant lands adjacent to John Muir Hospital for horizontal expansion to offset the existing high rise building. Approximately 15 acres of land comprise the Kaiser superblock, while the John Muir Hospital could potentially use 19 acres of the total 55 acre Muir Health Center. The balance of this latter center is proposed for related health facilities such as convalescent hospitals, medical offices, outpatient clinics, health administrative centers and related uses.

Space for medical offices, convalescent hospital and an outpatient clinic is provided adjacent to the Rossmoor Shopping Center in keeping with the desires of the Golden Rain Foundation and the needs of the Rossmoor residents. "Life care" facilities are expected to be provided within the gates of Rossmoor at generally the same residential densities as now exist, and are expected to be more resi-

dential in character than medical with the possible exception of optional food services and limited medical assistance.

Smaller medical office areas that may also include convalescent hospitals and other related health facilities include the strip at the eastern corner of Ygnacio Valley Road and Walnut Avenue, and the "hilltop" area on San Miguel.

In all approximately 110 acres of land has been set aside on the General Plan for health facilities; slightly more than the 100 acres that would be indicated at design capacity based on the 1970 land to population ratios for the Planning Area.

"Senior citizen housing can be considered as an alternate use on the property adjacent to the Grace Presbyterian Church on Tice Valley Boulevard. Development proposals for senior housing on this site should be processed subject to public hearing, allowing the opportunity to consider a proposed project as to its appropriateness for the site. Consideration should be given to compatibility with surrounding uses, density, parking and design." 1

4. Library Facilities - The Walnut Creek Library on North Broadway is expected to continue to serve as the main City Library facility over the long range future, and will probably have to be expanded both vertically and horizontally over the next 20 years to continue to serve this function. This library and its expansion should be considered as an integral part of the Master Plan for the Civic Center site. Inadequate parking for both employees and library users is currently a problem that will also have to be considered as part of more detailed Civic Center Master Plan studies.

In addition to the main library in the core area and the Thurman G. Casey Library in Ygnacio Valley, at least one additional branch library should be developed within the planning area. Since there no longer exists a branch library within the interior of the Rossmoor residential area, it is desirable that a branch library be located somewhere in the vicinity of Rossmoor Shopping Center complex. The exact location should be subject to further studies but it definitely should be accessible to the public rather than within the gates of Rossmoor."2

The Pleasant Hill Library on Oak Park Boulevard adjacent to the County library administration offices provides community branch library services to residents living in the northern portion of the Walnut Creek Planning Area.

5. Fire Protection - There is presently a fire station located within each of the residential communities with the exception of South Ygnacio Valley. A site is proposed on the Plan Diagram in the vicinity of Oak Grove Road and Walnut Avenue. Detailed locational studies will be the responsibility of the Contra Costa County Consolidated Fire District.

1 Amended by Resolution No. 3825

2 Amended by Resolution No. 3648

"The district has purchased a parcel of land on the northeastern side of Tice Valley Boulevard for the purpose of constructing a fire station but is studying alternative sites in the general area."*

The new fire college and adjacent fire station on Treat Boulevard in Concord are also reflected on the Plan Diagram.

6. Civic Center - The site consists of approximately 18 acres bounded by North Broadway-Civic Drive on the north and west; by the Southern Pacific Railroad line and Walnut Creek on the east; and by Lincoln Avenue on the south.

Included within the Civic Center will be a governmental complex of approximately 100,000 square feet, a 500-car parking structure, a civic arts center including instructional, exhibit, and performance facilities, a three to four acre central neighborhood park and interconnecting pathways and plazas. The south end of the Civic Center site will contain an expanded City Library and possibly a museum facility.

The Civic Center Program generally calls for location of the governmental complex west of the creek, cultural complex east of the creek and nearby parking facilities to serve each. The southern portion of the creek is proposed to be covered and used as a parkway while retaining as many significant trees along its banks as possible. The northern portion may be saved entirely if an alternative underground box is routed more directly through the east ball field area as proposed by the City to the Contra Costa Flood Control District and the Army Corps of Engineers.

The City has retained the architectural firm of Demars and Wells to prepare a master plan for the Civic Center for both first stage and long range development including specific treatment of the creekway.

The City is hopeful of completing a portion of the governmental center, a ground level parking area, land for the municipal courts and creekway landscaping in the first phase of development within the next three to five years. Second phase development would include construction of civic arts facilities, central neighborhood park facilities, a parking structure, and library expansion.

Utilities

Utility service to the City of Walnut Creek and the adjoining unincorporated portions of the Planning Area is provided by a number of special districts and quasi-public agencies. The City of Walnut Creek does not have legislative control over

the individuals actions of those agencies that provide utility services to the community, but instead attempts to coordinate the mutual development efforts through such programs as subdivision tentative map conferences, Underground Utility Advisory Committee meetings, and other special committee efforts.

The following special utility districts and agencies provide services within the Walnut Creek Planning Area:

1. Pacific Gas & Electric Company
2. Pacific Telephone & Telegraph Company
3. East Bay Municipal Utility District
4. Contra Costa County Water District
5. Contra Costa County Sanitary District
6. General Electric Cablevision Corporation (City Franchise)
7. Contra Costa County Flood Control District
8. Valley Disposal Company (City Franchise)

It is the policy of the City of Walnut Creek that, wherever practicable, multipurpose public use be made of utility rights-of-way that are located within or pass through the community. Examples of this policy are reflected on the General Plan Diagram as follows:

1. Proposed use of the East Bay Municipal Utility District right-of-way for city riding and hiking trail purposes.
2. Use of P. G. & E. transmission line easements and rights-of-way for city and regional riding and hiking trails and cycling and pedestrian paths.
3. Use of the Contra Costa Canal right-of-way for city riding and hiking trails.

It is further the policy of the City of Walnut Creek to require the undergrounding of utilities in all new developments, except in the cases of proven hardship or technological infeasibility; and to encourage the planned conversion of existing overhead powerlines with priorities to be determined by the City Council based on the recommendations of the Underground Utility Advisory Committee.

Open Space

The Open Space Element of the General Plan consists of agricultural preserves, greenways, land banks for future park sites, and open space. Together, these components provide a comprehensive visual and functional framework for the setting of places of residence, employment, and community facilities within the Walnut Creek Planning Area. This open space is of great importance to Walnut Creek and reflects a broad variety of important values: recreational, educational, scenic, ecological and economic. The values are interrelated throughout the community in numerous ways which make the preservation of open space of utmost importance to the well-being of City residents. However, the permanence of open space has never been guaranteed.

As there is increasing importance placed upon the problems of the region and the forms of cooperation and government necessary to solve those problems, it also becomes increasingly important for local communities to retain their sense of place and identity within the larger region. The identification and preservation of those features that give Walnut Creek identity and a sense of well-being within Contra Costa County and the Bay Region, coupled with the functional uses of those open spaces for recreational and ecological purposes, provide the justification for the inclusion of extensive open spaces within the Planning Area.

Agricultural Preserves

On the southerly portions of Lime Ridge and at the base of Mt. Diablo are several thousand acres designated as agricultural preserves. A majority of this land is currently being retained in its relatively undisturbed state for agricultural purposes and is zoned accordingly. Uses envisioned within these preserves include: watershed, grazing, agricultural, and public and private recreation. Significant residential development should not be considered in this area during the span of this plan. All of these lands are currently without urban services and extension of urban amenities into that area would be premature and undesirable.

Greenways

The following types of greenways are proposed to be used as walking, cycling, hiking, and equestrian links within the open space and urban areas:

1. Creekways and Channels. Major creekways, including Walnut Creek, Pine Creek, San Ramon Creek, and Las Trampas Creek, are proposed to be used as public greenways. Although several of these creeks or portions thereof are channelized for flood control purposes, every effort should be made to make multiple use of these channels and stream sites for greenway purposes. This can be accomplished by covering the channel in areas such as the Civic Center, Broadway Shopping Center, and Newell-Creekside area; by joint use of maintenance roads adjacent to the channels; by retention of existing significant tree cover; and by provisions of additive landscaping and paths.

2. Utility Rights-of-Way. In addition to the flood control channels and stream beds discussed above, the General Plan envisions use of the Contra Costa Canal, East Bay Municipal Utility District right-of-way, and Pacific Gas and Electric Company's major transmission line rights-of-way and easements for

joint greenway purposes. The now open Contra Costa Canal system may be converted to an underground system within the next five years; after which, the surface can be made available to the East Bay Regional Park District for regional riding and hiking trails and cycling and pedestrian paths, and to the City for local trails and paths. An example of the significant links that could be provided is the connection of a regional hiking and riding trail to the equestrian center at Heather Farm City Park.

The East Bay Municipal Utility District right-of-way that traverses the westerly edge of the Planning Area is proposed to be used as a City-wide greenway link between Acalanes High School, Ellis Elementary School, Larkey Elementary School and Larkey Park and Junior Museum.

Although the P.G.&E. major transmission lines are blocked by fences in some areas for trail purposes, it appears worthwhile to make efforts to remove some of these barriers in order to provide greenway links between residential areas and schools, parks, and library sites.

3. Highways. Greenway treatment is proposed along several of the major thoroughfares within the Walnut Creek Planning Area including:

a. Ygnacio Valley Road Greenway has already been partially developed by both the private and public sectors. As private development occurs, the developer is required to provide landscaping and street trees within his front yard. Where possible, a meandering path is provided instead of the conventional curbside walk. The City has completed landscaping of both the medians and the roadside area between Bancroft Road and Oak Grove Road. Second phase development within the near future will include the provision of a meandering cycling and pedestrian path. As private development occurs beyond the pathway, landscaping will be installed in that portion of the greenway. Within the foreseeable future, pedestrians and cyclists should be able to travel along the Greenway from residential areas to shopping centers, offices, churches, the Shadelands Ranch Museum and Community Center, Heather Farm City Park, Heather Farm Golf Course, the Walnut Creek BARTD Station and other facilities.

b. Oak Grove Road--North Gate Road is also proposed for greenway and scenic highway treatment between Ygnacio Valley Road and Castle Rock District. In the section between Ygnacio Valley Road and North Gate Road, a creative combination off-street and on-street pathways may have to be provided. The roadway between the Encina Grande Shopping Center and Valley Vista Road has already been developed for the most part and elimination of parking on one side for a bikeway may be necessary. Street trees are already being provided that will enhance this area. The link between Valley Vista Road and North Gate Road could be accommodated on a few large parcels on the east side of Oak Grove Road if planned development zoning and cluster development were encouraged. Creekway retention or additive greenway landscaping could also be a part of such a planned development if cluster techniques are adhered to.

An entirely different atmosphere should be created on North Gate Road between Oak Grove Road and Arroyo Del Cerro Regional Park. This greenway link should be primarily equestrian-oriented and landscaped with native trees and ground cover. The North Gate Road Study prepared by the Walnut Creek Planning Department in 1970 describes this area in greater detail.

c. Danville Boulevard was established as a scenic highway and greenway by the Planning Commission and the City Council in response to requests by residents in the area to preserve the open space and tree covered character of this entrance to the City. Treatment of Danville Highway could be much the same as that of Ygnacio Valley Road with the major difference being in the emphasis on the rural character of Danville Highway compared to the suburban character of Ygnacio Valley Road. Major trees should be preserved along the highway wherever possible, a meandering path provided instead of concrete sidewalks and the street designed for more leisurely motoring rather than heavy commuting.

d. All freeways are included as greenways in the sense that they will provide significant amounts of landscaping along the traveled way and that they provide a substantial corridor of open space free of buildings. Any new freeways constructed will be expected to take into design consideration their environmental impact on existing natural features, trails, and views.

In addition to the major elements of the open space system described herein, many private and lesser public facilities should be encouraged to provide open space elements to their site plans that can be a part of the web of the public open space system.

The Open Space category on the General Plan Land Use Map includes a 0-2 dwelling unit density range. Although it may appear that housing units conflict with the concept of open space, the intent of this category is to allow flexibility in preserving open space values. Given the variety of topography, ownerships, and availability of urban services on the various sites, the density range permits realistic vehicles for implementing the open space values. The action program outlines several alternative approaches, all of which conform with this density range.

The Open Space category should not be confused with the "Open - Residential" classification. The Open Space designation places emphasis on preserving features on those lands identified as being important for scenic, ecologic, recreational, or agricultural purposes. The intent of the Open Residential classification is to permit large lot, ranchette-style homesites on the fringes of urban areas.

Land Banks for Future Park Sites

The purpose of designating land banks for future park sites is to reserve space for future recreational needs. The high costs of park acquisition, development, and maintenance does not permit the City to acquire and develop parks in a short period of time. The City, in 1974, is still struggling to develop and maintain its existing parks and will probably require several years before acquisition and development of all sites can occur.

GENERAL PLAN CIRCULATION ELEMENT

IV

CIRCULATION
ELEMENT

See-

Comprehensive Transportation
Plan

Adopted by City Council
Resolution No. 3601
July 19, 1977

**GENERAL PLAN
COMMUNITY
DESIGN
ELEMENT**

Community Design Element

The Community Design element was added to the General Plan revision studies in response to increasing awareness of one's visual environment on the part of Walnut Creek's residents, elected officials, and staff. Emerging as a relatively new and overlapping field, urban or community design draws from the combined resources of architecture, city planning, landscape architecture and civil engineering among others. Although a precise definition will probably never be agreed upon by all concerned, it is reasonable to assume that the Community Design element should provide guidelines for the three-dimensional translation of the more conventional land use, open space and circulation policies; that it should be influencing these policies by including its goal-seeking, inventories, analyses, and alternative testing as added factors in the General Plan process; and that it should have the same characteristics of being general in nature, short and long range in time span, and comprehensive in scope.

The objectives and principles of the Community Design element have been provided at the beginning of the General Plan section, and will be subject to modification as the Goals Committee reports to the City Council. Comprehensive community design inventories of the existing visual environment of both the Planning Area and the Core Area were conducted by Staff with the assistance of a visiting architect from Recife, Brazil who was faced with the very problems of orientation and identification that the inventories were intended to investigate. The results of these inventories are summarized in the Basic Data Report, 1967 and on diagrams available at the Planning Department as are graphic analyses of community design problems.

Definitions of the major focal points, centers, areas, separators and edges, integrators, and special features that combine to form the basic structure of the Community Design element are provided in the preceding list of Principles and in the Basic Data Report. Graphic illustration of Community Design policy is provided in the Community Design Diagram in the back of the report. A summarized survey of the major features of the Community Design element is provided below by Community Area and Statistical Area (SA), while methods of implementation are discussed in Table 6 of the Appendix.

SA-1 - Core AreaMajor Focal Points

High-Rise Office Buildings
High-Rise Apartments

Major Centers

Central Commercial District
Civic Center
Walnut Creek Rapid Transit Station
Kaiser Health Center
Las Lomas High School

Major Entries

Freeway off-ramps at South Main Street, California Boulevard, Mount Diablo Boulevard, Ygnacio Valley Road, and North Main Street.
Civic Drive and Ygnacio Valley Road
Walnut Creek Rapid Transit Line to Station

Major Vantage Points

High Rise Offices and Apartments
Civic Center Administration Building (future)
Rapid Transit Station Loading Area

Identifiable Developed Areas

Central Commercial District
Residential Neighborhoods: Creekside, Mt. Pisgah, Almond-Shuey, Riviera, North Civic
Olympic Boulevard and Creekside Office Complexes

Significant Open Space Areas

Civic Center Neighborhood Park
Las Lomas High School Playfields
Walnut Creek Park Malls and Creekways

Separators and Edges

Rapid Transit Line
Ygnacio Valley Road
California Boulevard
Broadway
InterState Freeway 680
Southern Pacific Railroad Line

Integrators

Main Street (with widened pedestrian areas)
South Broadway Mall
Creekside Park-Mall

Special Features

Relative Compactness
Contrast of high rise buildings with low rise areas
Street level and future second level pedestrian systems
Creekway Park-Malls
Identifiable Downtown Area

SA-2 - Las Lomas AreaMajor Focal Points

View of Mount Diablo

Major Centers

Indian Valley, Walnut Heights, Murwood and future elementary schools

Future Intermediate School

Future Convenience Shopping Centers (on edge of Core Area or part of large scale planned developments where appropriate)

John Muir Health Center

Major Entries

Livorna Road at InterState 680

Rudgear Road at InterState 680

Mount Diablo Boulevard east of Railroad Line

Major Vantage Points

Length of Shell Ridge for pedestrians, cyclists and equestrians

Livorna Road at crossing of Shell Ridge for vehicular traffic

Identifiable Developed Areas

Walnut Heights Area

Indian Valley Area

Walnut Boulevard-Homestead Area

Livorna Estates Area

Significant Open Space Areas

Shell Ridge

Summit Ridge

InterState 680 Scenic Corridor

Separators and Edges

Summit Ridge

InterState Freeway 680

Ygnacio Valley Road

Shell Ridge

Livorna Road

Southern Pacific Railroad

Integrators

Shell Ridge (through provision of trail system)

P G & E right-of-way (if trail use included)

Southern Pacific Railroad Line (if cycling and trail system provided)

Special Features

Contrast of backdrop of steep ridges, rolling terrain and flatlands

Variety of private residential views and dwelling sitings

Maturity of both natural and additive tree cover

Rural physical setting within close proximity to subregional center

SA-3 - Del Valle AreaMajor Focal Points

Rossmoor "World" Sculpture
Las Trampas Peak

Major Centers

Rossmoor Shopping Center
Del Valle High School
Parkmead Intermediate School
Parkmead, Tice Valley and Montecito Elementary Schools

Major Entries

Olympic Boulevard at State Freeway 77
Boulevard Way at InterState 680
Rudgear Road at InterState 680
Livorna Road at InterState 680

Major Vantage Points

Las Trampas Regional Park
Rossmoor Roadside Park (access limited)

Identifiable Developed Areas

Saranap Area
Tice Valley Area
Rossmoor Area
Crest Area

Significant Open Space Areas

Las Trampas Peak and Ridges and Regional Park
Rossmoor Golf Course (private)
Las Trampas Creek

Separators and Edges

Las Trampas Ridges
Southern Pacific Railroad Line
InterState Freeway 680
State Freeway 77 (portion)
Burton-Alamo Parkway

Integrators

Las Trampas Ridge (through provision of trail system)
Southern Pacific Railroad (if cycling and trail system provided)
Las Trampas Creek (if path system provided)

Special Features

Backdrop of Las Trampas Peak
Rossmoor Planned Community
Rural physical setting within close proximity to subregional center
Maturity of natural and additive tree cover
Distinct Subareas

SA-4 - AcalanesMajor Focal Points

View of Mount Diablo

Major Centers

Acalanes High School
Buena Vista, Larkey and Ellis Elementary Schools
Palos Verdes Shopping Center
Geary-Main Street Shopping Center
Larkey Community Park

Major Entries

Geary Road at InterState 680 and at extension of State
Freeway 77
North Main Street at InterState 680
Buena Vista Avenue at InterState 680
Springbrook Road at intersection at State Freeway 24
State Freeways 24 and 77 Interchange

Major Vantage Points

Hilltop Neighborhood Park

Identifiable Developed Areas

Larkey Area
Sunnyvale Area
Palos Verdes Area
Springbrook Area

Significant Open Space Areas

Lafayette Ridge
Larkey Park

Separators and Edges

InterState Freeway 680
State Freeway 24
Extension of State Freeway 77
Lafayette Ridge
Contra Costa Canal

Integrators

E.B.M.U.D. Right-of-Way
Contra Costa Canal (when riding and hiking trails are
provided)

Special Features

Division of community into two physical areas by Lafayette
Ridge
Excellent views of Walnut Creek community and Mt. Diablo
Varied ages of neighborhoods

SA-5 - North Ygnacio ValleyMajor Focal Points

Heather Farm Knoll
 Shadelands Ranch House
 Views of Mount Diablo

Major Centers

Ygnacio Valley Employment Center
 Oak Grove-Treat Center
 Pleasant Hill Rapid Transit Station
 Heather Farm City Park
 Ygnacio Valley High School
 Oak Grove Intermediate School
 Walnut Creek Intermediate School
 Walnut Creek, Bancroft, Valle Verde, Woodside and future elementary schools

Major Entries

Treat Boulevard at InterState Freeway 680
 Bancroft Road at Ygnacio Valley Road
 Oak Grove Road at Extension of State Freeway 24
 Ygnacio Valley Road at Lime Ridge

Major Vantage Points

Lime Ridge adjacent to Ygnacio Valley Road
 Heather Farm Knoll

Identifiable Developed Areas

Walden Area
 Walnut Creek Corridor
 Heather Farm Area
 Treat to Minert Area
 East Bancroft Road Area
 Woodside Area
 Valle Verde Area

Significant Open Space Areas

Lime Ridge	Ygnacio Valley Road Greenway
Heather Farm City Park	Heather Farm Golf Course

Separators and Edges

Extension of State Freeway 24	Contra Costa Canal
InterState Freeway 680	Ygnacio Valley Road
Southern Pacific Railroad Line	Treat Boulevard (six lane portion)
Walnut Creek Channel	Rapid Transit Line

Integrators

Contra Costa Canal (when undergrounded and surface used for trails)
 Walnut Creek Channel (if riding and hiking trails provided)
 Pine Creek Channel (if trails provided)
 Southern Pacific Railroad Line (if trails provided)

Special Features

Heather Farm City Park
 Shadelands Ranch
 Orchard setting of employment area
 Ygnacio Valley Road Greenway

SA-6 - South Ygnacio ValleyMajor Focal Points

John Muir Hospital
View of Mount Diablo
Castle Rock

Major Centers

Ygnacio Plaza Shopping Center
Encina Grande Shopping Center
Castle Rock High School
Foothill Intermediate School
San Miguel, Walnut Acres, Castle Rock, and future elementary schools
John Muir Health Center

Major Entries

Walnut Avenue at Ygnacio Valley Road
Oak Grove Road at Ygnacio Valley Road
Ygnacio Valley Road at Lime Ridge

Major Vantage Points

Lime Ridge adjacent to Ygnacio Valley Road
Walnut Creek Municipal Golf Course
Shell Ridge and Lime Ridge

Identifiable Developed Areas

San Miguel Area
Walnut Acres Area
Castle Rock Area
North Gate Area
Valley Vista Area

Significant Open Space Areas

Lime Ridge
Shell Ridge
Walnut Creek Municipal Golf Course
Brooktree Community Park, Greenway and Neighborhood Park
Ygnacio Valley Road Greenway

Separators and Edges

Lime Ridge
Shell Ridge
Ygnacio Valley Road
Contra Costa Canal

Integrators

Contra Costa Canal (when undergrounded and trails provided)
Pine Creek (if trails provided)
P G & E Right-of-Way (if trails provided)

Special Features

Identifiable boundaries and ridge backdrop
Views of Mount Diablo
Primarily newer subdivision housing

SA-7 - North Gate AreaMajor Focal Points

Mount Diablo
Castle Rock

Major Centers

Arroyo del Cerro Regional Park and Reservoir
Castle Rock Park (private)

Major Entries

North Gate Road
Livorna Road - Castle Rock Road

Major Vantage Points

Mount Diablo Observation Tower
Arroyo del Cerro Regional Park
Shell and Lime Ridges

Identifiable Developed Areas

None (Open Space Preserve)

Significant Open Space Areas

Mount Diablo State Park
Open Space Preserve
Lime Ridge
Shell Ridge
Arroyo del Cerro Regional Park and Reservoir
Castle Rock Park (private)

Separators and Edges

Lime Ridge
Shell Ridge

Integrators

Pine Creek (if trail provided)
Shell and Lime Ridges (if riding and hiking trails provided)

Special Features

Mount Diablo
Castle Rock
Arroyo del Cerro Reservoir and Regional Park
Open Space Preserve including cattle grazing

GENERAL PLAN HOUSING ELEMENT

VI

HOUSING ELEMENT

See-

Separate Document

HOUSING ELEMENT

Adopted by City Council
Resolution No. 3674

GENERAL PLAN CONSERVATION ELEMENT

CONSERVATION ELEMENT*

INTRODUCTION

State law requires every local community to adopt a conservation element as part of the local general plan. The purpose of the conservation element is to set forth the plans and policies which will guide the utilization and protection of the community's natural resources. Although different in emphasis from the open space element, the conservation element nonetheless is interrelated with it. Many of the factors presented here directly relate to some of the important considerations in choosing open space areas within this plan.

Since not all factors (i.e., air and water resources) of a conservation element lend themselves to graphic portrayal, the main thrust of the proposed conservation element lies within the policy text which establishes the objectives and principles necessary for an action program. The following sections of this report discuss the major natural resource categories of the conservation element for Walnut Creek.

EXISTING SITUATION:Air Quality

Despite increased smog prevention actions by federal, state, and regional agencies, air quality in Walnut Creek has continued to decline because of the increase in population and automobiles. Housing projects presently approved and under construction guarantee that the City will not be able to meet the 1977 Air Quality Standards established by the Federal Clean Air Act of 1969 unless drastic actions are taken to curtail automobile usage.

The problem, of course, is not merely a local one, and much action is needed at the regional, state, and federal levels. Nevertheless, there are some actions that can be taken at the local level. Provision of a local public transit system could reduce reliance on the automobile and thus decrease engine emissions. Revision of building standards to require better insulation of structures would reduce air pollutants emitted by furnaces and also conserve energy. A third action would be the preservation of large areas in natural vegetation because vegetation not only supplies fresh oxygen to the atmosphere, but also removes many pollutants from the air.

Water

Within Walnut Creek, water is a highly valuable resource which needs to be protected and properly utilized. Pollution of surface waters is caused primarily by surface runoff which carries pesticides and fertilizers into the streams. The pesticides kill off much of the wildlife in and around the stream while the nutrients added by the fertilizers cause large algal blooms. Stricter controls on the use of pesticides and fertilizers would do much to rectify this situation, but such regulations need to be carried out at the state and federal level. At the local level, however, an education program to make the public more aware of the ramifications of over-dependence upon fertilizers and pesticides to maintain yards and gardens could improve the situation.

*The term "Conservation Element" as used herein shall be construed to be the "Conservation Element" as defined in Government Code §65302(d).

To meet the demands of Walnut Creek and neighboring communities, the local water districts import huge quantities of water but the supply of water is limited. Without the development of new and costly facilities to store and transport water, it is important to develop an ethic regarding water utilization. One of the major demands for water is lawns and gardens. Greater use of native plant materials would reduce water requirements for maintaining yards.

The Clayton-Ygnacio Valley is the location for sizable ground water basin and recharge area for the Walnut Creek Valley. This unit is one of 18 significant ground water areas in the San Francisco Bay region. The ground waters from these areas are considered good to excellent in quality. Currently, the ground water resources are being used by only a limited number of private domestic and irrigation wells. Following several years of low precipitation, increased ground water use, extensive urbanization and channelization of stream beds, the fresh water level has dropped allowing sea water to filter into some lower aquifers beneath the Walnut Creek area.

Although the ground water resource in the basin is used only to a limited degree its value is becoming more important. In a recent report to the Contra Costa County Water Agency, Metcalf and Eddy, Consultants have stated that:

"The economic importance of the naturally occurring ground water resources cannot be overlooked... It is felt by the investigator that the continued urbanization of the Clayton-Ygnacio Valley will ultimately place a premium on the underlying ground water supply."

This resource, however, is in a position of being contaminated. In summary, degradation of the Ygnacio-Clayton ground water basin occurs as a result of percolation of wastewater from urban areas, disposal plants, low quality overland supplies, and intruding salt water. These processes add salts and toxic materials to the ground water.

Preservation of Lime Ridge, the remaining natural creeks in Ygnacio Valley, as well as the northeastern half of Shell Ridge and its subsidiary ridge to the north would be a major aide in retaining the ground water resources of the Ygnacio Valley.

Mineral Resources

The primary mineral resources in the Walnut Creek area are sand, gravel and rock. In the past, some quarries did operate within the planning area, but all now are abandoned. Given the fact that better and more economically feasible deposits of these materials are available elsewhere in the region, the significance of Walnut Creek's mineral resources are very minor. The adverse impact upon adjoining residential neighborhoods, as well as the destruction of the natural beauty of the hill areas in which these deposits are located, make utilization of local mineral resources an unacceptable alternative.

The abandoned quarry on Lime Ridge, just south of Ygnacio Valley Road, is a visual scar, no longer economically viable and should be filled and returned to its original appearance.

Agriculture

In the past, agriculture, especially orchard crops, played an important role in Walnut Creek's economy. Now, however, virtually all of the community's prime agricultural land has been urbanized. Only in the hill areas where cattle and horse grazing occur is agriculture still important. Although the economic return from grazing is small, the significance of this agricultural use in reducing fire hazards is major and wherever possible this use should be maintained. In particular, agricultural preserves should be utilized in the Lime Ridge area to ensure that grazing remains an economic use of these properties.

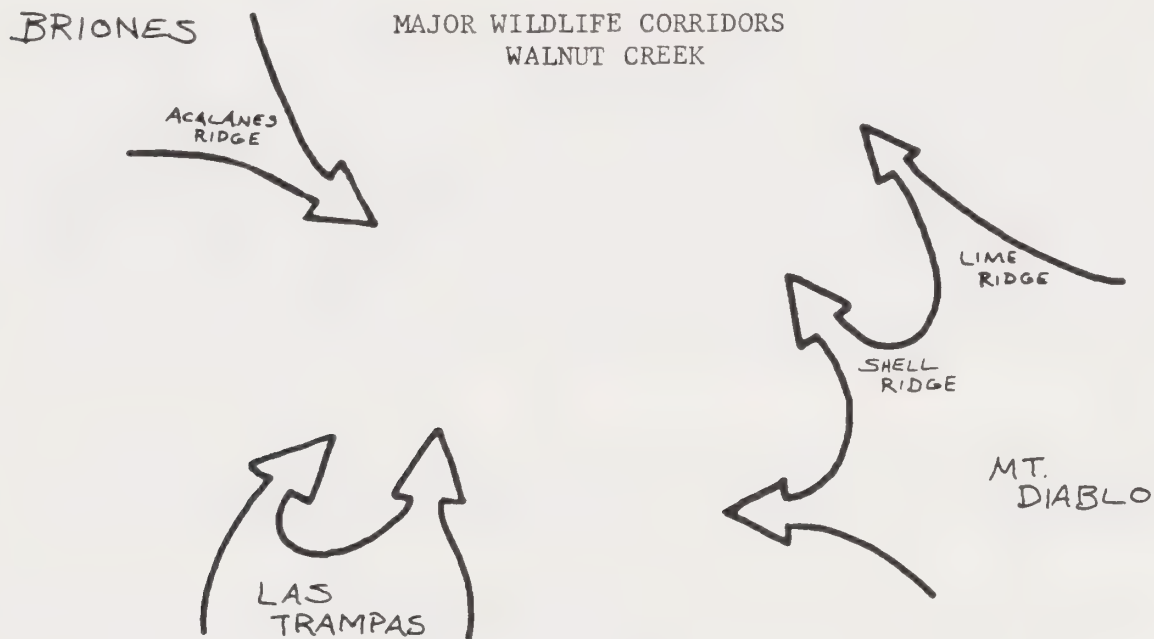
Wildlife

Despite urbanization, the Walnut Creek area still possesses a considerable variety of wildlife. All qualitative evaluations of the abundance of each species of amphibians, reptiles, birds, and mammals is relative and subjective. Nevertheless, general comments can be made about each classification:

1. Amphibians - The amphibians that occur in Walnut Creek do not comprise a great portion of the fauna since the infrequency of aquatic areas do not provide an extensive enough habitat for these creatures.
2. Reptiles - The numbers of reptiles are low compared to birds and mammals, however, various species of garter snakes and lizards are not uncommon. The giant garter snake and the Alameda racer occur on the rare and endangered list.
3. Birds - Birds are the most common animal found in the Walnut Creek area. Although in abundance, migratory patterns, and nesting characteristics vary greatly among species. Local residents are fortunate to have several hundred species of resident and migratory birds.
4. Mammals - No mammal is endemic to Walnut Creek's environs. However, the encroachment of human habitation restricts the movements and territories of native mammals. Only those species which tolerate man's aggression toward them proliferate. Several species can exist readily only in man's presence living on his waste's or in niches provided by his buildings or developments.

In order to maintain some of the community's wildlife values, it is necessary to preserve those areas critical to the natural habitats of the species. Of particular importance is the maintenance of large open space corridors which allow wildlife a means of entering and leaving the area. Isolated islands of open space do not allow the various species of wildlife to replenish their numbers when decimated by dogs, cats, hunters, cars, and people. At present, a number of natural corridors

exist along the major ridge areas of Walnut Creek where development and roads should not be allowed to penetrate and sever these corridors.



Also important to the maintenance of wildlife is the preservation of the stock ponds and natural streams which provide the water supply critically needed to sustain certain species. Development should not be allowed to destroy these water sources nor isolate them from the wildlife corridors. Furthermore, the remaining natural stream beds should be halted in favor of alternative methods of flood control.

Those areas of Walnut Creek with high wildlife values have been identified and have been used as one of the factors determining open space values. In fact, the proposed open space element recommends preservation of almost all major areas with high wildlife values.

Vegetation

The major types of natural plant communities within the Walnut Creek area are: riparian, grass land, savanna or oak grass land, and chaparral. Of these, the chaparral and riparian plant communities are the most limited; the latter occurring along major stream beds and the former limited to an isolated minor valley near Pine Canyon.

Areas of natural vegetation serve a number of functions: (1) they aid in preventing soil erosion; (2) they retard surface water runoff, thereby aiding in flood prevention; (3) they replenish the oxygen supply of the atmosphere; (4) they help to purify the air of pollutants; and (5) they serve as a food source and shelter for most of the native wildlife.

As might be expected, the areas having the highest natural vegetation values coincide to a great degree with the high wildlife value areas. Thus, the areas

of Walnut Creek containing the most important stands of vegetation are included in the areas to be preserved in the proposed open space plan.

Preservation of significant wildlife and vegetative communities affords numerous opportunities for nature oriented educational activities seldom found in urban areas. A wide variety of flora and fauna exists in the undeveloped lands, some species of which are rare in the Contra Costa County area.

Scenic Beauty

Although the concept of natural scenic beauty may be a somewhat subjective idea, its impact upon the liveability and desirability of a community is very real. Walnut Creek is fortunate in possessing a great deal of natural beauty in the form of Mt. Diablo and the many ridges (Shell, Summit, Lime, Acalanes, Los Trampas, Sugarloaf) which are visible throughout the community. Also of importance to the scenic beauty of the area are the few precious remaining natural streams.

At present, the City's Hillside Planned Development Ordinance can help to keep portions of these ridge lines in their natural state. An amendment is required to this ordinance, however, to ensure that the natural stream beds will also be preserved. Efforts also need to be taken to convince the County to adopt a similar ordinance which would be applied to any proposed developments on lands in the unincorporated portion of the Walnut Creek Planning area.

CONSERVATION ELEMENT PROGRAM

In conjunction with the programs of action suggested for other portions of this text, the following specific actions should be taken:

1. The Hillside Planned Development Ordinance should be amended to protect natural stream channels.
2. The City should encourage the County to adopt an ordinance similar to the City's Hillside Planned Development Ordinance in order to ensure that any development in the unincorporated portions of the planning area preserves ridge lines and natural stream channels.
3. In order to utilize the available water supply more effectively, the City should make greater use of native plant materials in the landscaping of public lands and should encourage private landowners and residents to also do so.
4. An education program should be started to make the general public aware of how utilization of pesticides and fertilizers for yards and gardens pollutes the natural streams.
5. As part of a local effort to reduce air pollution and to preserve energy sources, building standards should be revised to require better insulation of structures, and a local public transit system should be established to reduce dependence on the private automobile.

**GENERAL PLAN
OPEN SPACE
ELEMENT**

OPEN SPACE ELEMENT*

STATE LAW

The State of California in recognizing the growing environmental awareness of the public and the need for local governments to take specific actions to preserve their environments has made the preparation of open space elements of the General Plan mandatory for counties and cities. Section 65560 of the California Government Code has defined open space as ". . . any parcel or area of land or water which is essentially unimproved and devoted to an open space use" as any of the following:

- (1) Open space for the preservation of natural resources including, but not limited to, areas required for the preservation of plant and animal life, including habitat for fish and wildlife species; areas required for ecologic and other scientific study purposes; rivers, streams, bays and estuaries; and coastal beaches, lake-shores, banks of rivers and streams, and watershed lands.
- (2) Open space used for the managed production of resources, including but not limited to, forest lands, rangeland, agricultural lands and areas of economic importance for the production of food or fiber; areas required for recharge of ground water basins; bays, estuaries, marshes, rivers and streams which are important for the management of commercial fisheries; and areas containing major mineral deposits, including those in short supply.
- (3) Open space for outdoor recreation, including but not limited to, areas of outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including access to lakeshores, beaches, and rivers and streams; and areas which serve as links between major recreation and open-space reservations, including utility easements, banks of rivers and streams, trails, and scenic highway corridors.
- (4) Open space for public health and safety, including, but not limited to, areas which require special management or regulation because of hazardous or special conditions such as earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs and areas required for the protection and enhancement of air quality.

The legislature further deemed that:

- (a) The preservation of open space land is necessary not only for the maintenance of the economy of the state, but, also for the assurance of the continued availability of land for the production of food and fiber, for the enjoyment of scenic beauty, for recreation, and for the use of natural resources.

*The term "Open Space Element" as used herein shall be construed to be the "Open Space Element" as defined in Government Code §65560. The City finds that "open space" as used in this element means public parks left basically in their undeveloped state to be used for recreational purposes such as, but not limited to, hiking, bicycling, equestrian purposes, and picnicking.

- (b) That discouraging premature and unnecessary conversion of open-space land to urban uses is a matter of public interest and will be of benefit to urban dwellers because it will discourage noncontiguous development patterns which unnecessarily increase the costs of community services to community residents.
- (c) That the anticipated increase in the population of the state demands that cities, counties, and the state at the earliest possible date make definite plans for the preservation of valuable open-space land and take positive action to carry out such plans by the adoption and strict administration of laws, ordinances, rules and regulations as authorized by this chapter or by other appropriate methods.
- (d) That in order to assure that the interests of all its people are met in the orderly growth and development of the state and the preservation and conservation of its resources, it is necessary to provide for the development by the state, regional agencies, counties and cities, including charter cities, of state-wide coordinated plans for the conservation and preservation of open-space lands.

EXISTING SITUATION AND OPEN SPACE NEEDS:

The Walnut Creek Planning Area is still fortunate to have significant land that remains in its natural state. This open space is of great importance to Walnut Creek and reflects a broad variety of important values: recreational, educational, scenic, ecological, and economic. The values are interrelated throughout the community in numerous ways which make preservation of open space of utmost importance to the well being of City residents. However, the permanence of open land and their values to the community has never been guaranteed.

The most important uses of open space are those which treat open space as a valuable resource and provide "substantial public benefits". Ideally, development of open space should be limited to the purposes of education, recreation and conservation of scenic and natural resources. However, as the population in Walnut Creek has increased, pressure to develop open space lands for urban uses has increased. Open space land is particularly vulnerable to urban encroachment for several reasons:

- (a) open space land, particularly when still owned in large parcels, is generally much cheaper to acquire than vacant passed over land within urban areas
- (b) large open space areas are less expensive to develop due to the economy of scale

- (c) most of the land that can be developed in the future is in the hillside areas of Walnut Creek.

The people of Walnut Creek have frequently reflected their desires for preserving the quality of their environment. Nevertheless, the following concerns need to be overcome before the open space resources of the area will be effectively protected:

- (a) a change in the current tax policy, as the existing system of property taxation hinders the preservation of open space by forcing land into more intensive uses.
- (b) existing techniques of open space preservation are limited in their ability to preserve a comprehensive system of open spaces.
- (c) existing local government financing makes it very difficult to purchase large open space areas.
- (d) differing development policies and intergovernmental conflicts inhibit the ability of governments to preserve a comprehensive system of open spaces.
- (e) the desire to develop land on the part of individual property owners often leads to exploitation of open space resources and inhibits the potential for local governments to control the development and use of open land.

Walnut Creek currently has 1100 acres of land in large hillside parcels that are served by utilities and are under strong pressures to develop. Several hundred other acres of hillside land have been approved for development. At least an additional 1,000 acres would be ready for development, except for the temporary hindrance of insufficient water supplies. Within most of these hillside parcels often less than 20% of the site is considered to be developable. Since these lands are the last of the major properties uncommitted to urban uses, it is imperative that the City establish policies to regulate the long term uses of these properties.

SITE EVALUATIONS*

Following an initial review of the vacant land in the City, the Open Space Action Committee recommended a number of sites to the consultant for preliminary study as to costs, value for open space, potential activity plans of the open lands, and suggested approaches to the preservation of the sites. From this preliminary evaluation of sites, the Committee selected four sites for detailed study: Shell Ridge, Lime Ridge, Acalanes Ridge, and Sugarloaf Hill. The following step in the process has been the preparation of a final report and action program. The consultant's recommendations resulted from extensive field investigations, aerial and ground photographic interpretation, discussions with property owners and City staff, and intensive analysis of various maps and environmental impact reports.

On several of the sites the consultants indicated where some limited urban development could occur without doing irreparable damage to the open space values. Where urban development is indicated, this should not be construed as a recommendation that it be allowed to occur. The purpose of showing these areas is generally to provide an alternative course of action for the City to pursue. That is, rather than having to buy the entire site, some limited development could be permitted in exchange for some open space dedication.

SHELL RIDGE:

Shell Ridge, actually a series of parallel ridges, is the dominant topographic feature within the Walnut Creek vicinity. Cutting diagonally into the heart of an urban area, it forms a wedge of open space within a rapidly growing suburban city. The total area of the site is approximately 2,600 acres. Access to the site is available from several directions on local collector streets.

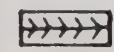

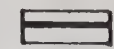

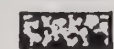

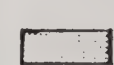
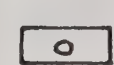

Natural resources found within Shell Ridge include an abundance of wildlife, a variety of vegetative communities, numerous streams and stock ponds, and watershed lands. The oak woodland communities, generally found on the northeasterly slopes of the ridges are important for the birds and mammals which inhabit those lands. The preservation of streams, stock ponds, and access to these watering spots and accompanying vegetation is critical to the proliferation of wildlife. Rock outcroppings are of educational value because of the shells imbedded in them from the time the rocks were marine sediment underlying the sea.

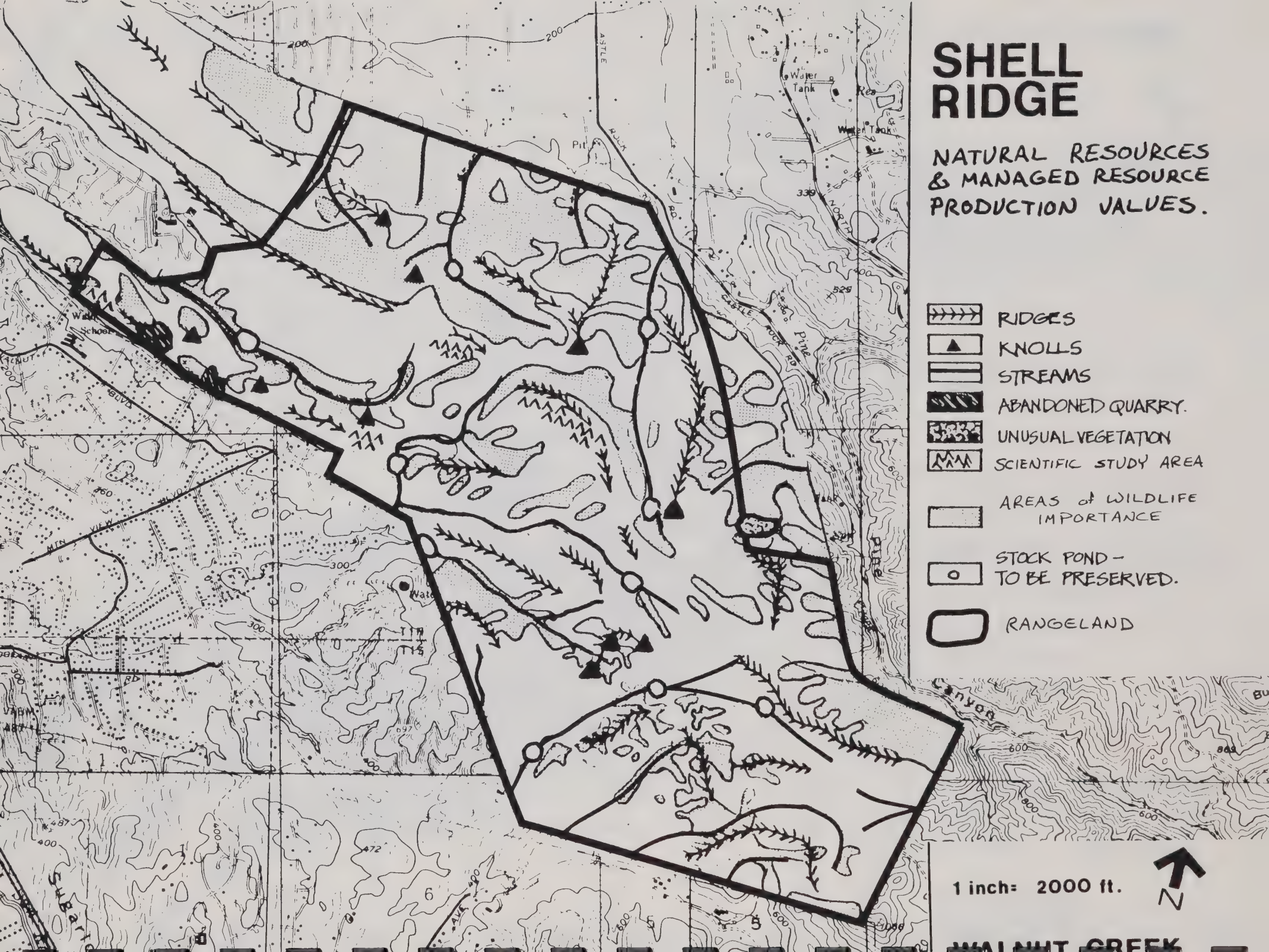
Shell Ridge is also valuable for the managed production of resources. Cattle grazing, though of minor economic importance, is necessary for the prevention of fire hazards. At least a portion of Shell Ridge has the potential value for horse grazing pastures, and could be used to complement the demands for equestrian oriented recreational facilities. The complex of ridges and valleys within Shell Ridge serve as a major watershed for the Walnut Creek and Ygnacio Valley Basins. The runoff from these lands contributes substantially to the underground aquifers which are in danger of destruction resulting from salt water intrusion caused by steadily decreasing quantities of fresh water filtering into the subterranean storage areas. (See conservation element.)

*For a detailed description of the data sources used to support the analysis of the following open space sites, see the references in Appendix "C".

SHELL RIDGE

NATURAL RESOURCES
& MANAGED RESOURCE
PRODUCTION VALUES.

-  RIDGES
-  KNOLLS
-  STREAMS
-  ABANDONED QUARRY.
-  UNUSUAL VEGETATION
-  SCIENTIFIC STUDY AREA
-  AREAS OF WILDLIFE
IMPORTANCE
-  STOCK POND -
TO BE PRESERVED.
-  RANGELAND






1 inch = 2000 ft.









WALNUT CREEK

SHELL RIDGE

PUBLIC HEALTH
AND SAFETY, AND
OUTDOOR RECREATION
VALUES.

-  RIDGES
-  KNOLLS
-  STREAMS

RELATIVE IMPORTANCE:

-  HIGH: $>30\%$ SLOPE AND CREEP & LANDSLIDE EXISTENCE OR POTENTIAL
-  MODERATE: $15-30\%$ SLOPE
-  LOW: $0-15\%$ SLOPE
-  EXISTING OR POTENTIAL CREEP & LANDSLIDE AREAS.
-  STAGING AREAS
-  TRAILS

1 inch = 2000 ft



WALNUT CREEK

The primary use and importance of the open lands on Shell Ridge are for outdoor recreational and scenic purposes. The flow of the ridge in a northwest to southwest direction leads the eye directly up to Mt. Diablo, thus forming a continuum of visual open space stretching for several miles. When walking through the valleys within the site, there is an almost complete sense of isolation from the surrounding urbanized world due to the natural barriers formed by the ridges. This sense of isolation, in close proximity to urban development, enhances the value of the area for various forms of recreation, such as nature study, hiking, and picnicking. Since Shell Ridge forms a natural open space corridor from the heart of Walnut Creek up to Mt. Diablo, it is ideally suited for trails connecting the urbanized areas with Mt. Diablo State Park.

In terms of public health and safety, several conditions exist that warrant Shell Ridge's use as open space. Many of the hillsides are steeply sloping and some of them are quite unstable. Slopes under 15% are rare. The open land acts as a huge sponge, absorbing much of the rainfall, thus minimizing rapid storm runoff and consequent downstream flooding.

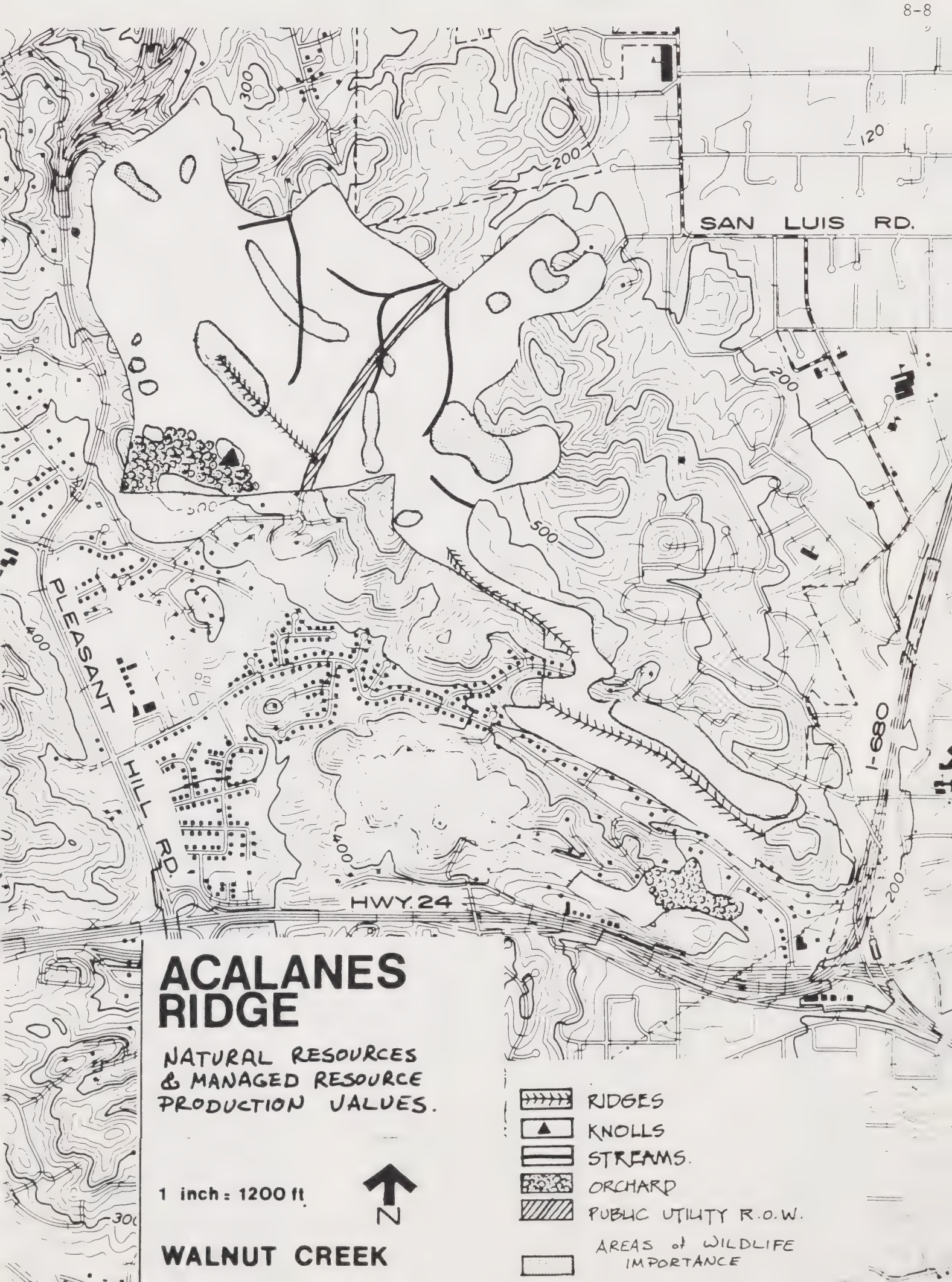
Most of the Shell Ridge site is owned by eight major land owners, who own a total of 21 large parcels. In general, land values (based upon 1973-74 assessor's information) range from about \$230/acre in the most hilly, least accessible areas to \$6,500/acre in a few of the flat, readily accessible sites.

If the site is not purchased as open space, it is conceivable that there would be in the neighborhood of 2,500 dwelling units on the site with the resulting roads, schools, and other urban trappings. Spread over significant portions of the site, this amount of urban development would seriously undermine the visual as well as the ecological integrity of the site, not to mention destroying the continuity of open space that stretches all the way to Mt. Diablo.

ACALANES RIDGE:

The Acalanes Ridge site is located in the northwestern portion of the Walnut Creek Planning Area in an area surrounded by Freeways 24 and 680 and Pleasant Hill Road. As a consequence of recent official actions by the Local Agency Formation Commission (LAFCO), much of the southwest portion of the open area has been placed within the "sphere of influence" of the City of Lafayette.

The ridge is actually a series of ridges trending northwest and southeast and terminating at the junction of the two freeways. The total area of the ridge lands is slightly over 600 acres. The current use in some parts of the area evaluated is grazing while in other areas the land is not currently being utilized. A portion of a large development proposal which may ultimately have almost 600 dwelling units was recently approved by the City on a portion of the site. The proposed development will retain most of the site in open space, including all of the major ridgelines.









ACALANES RIDGE

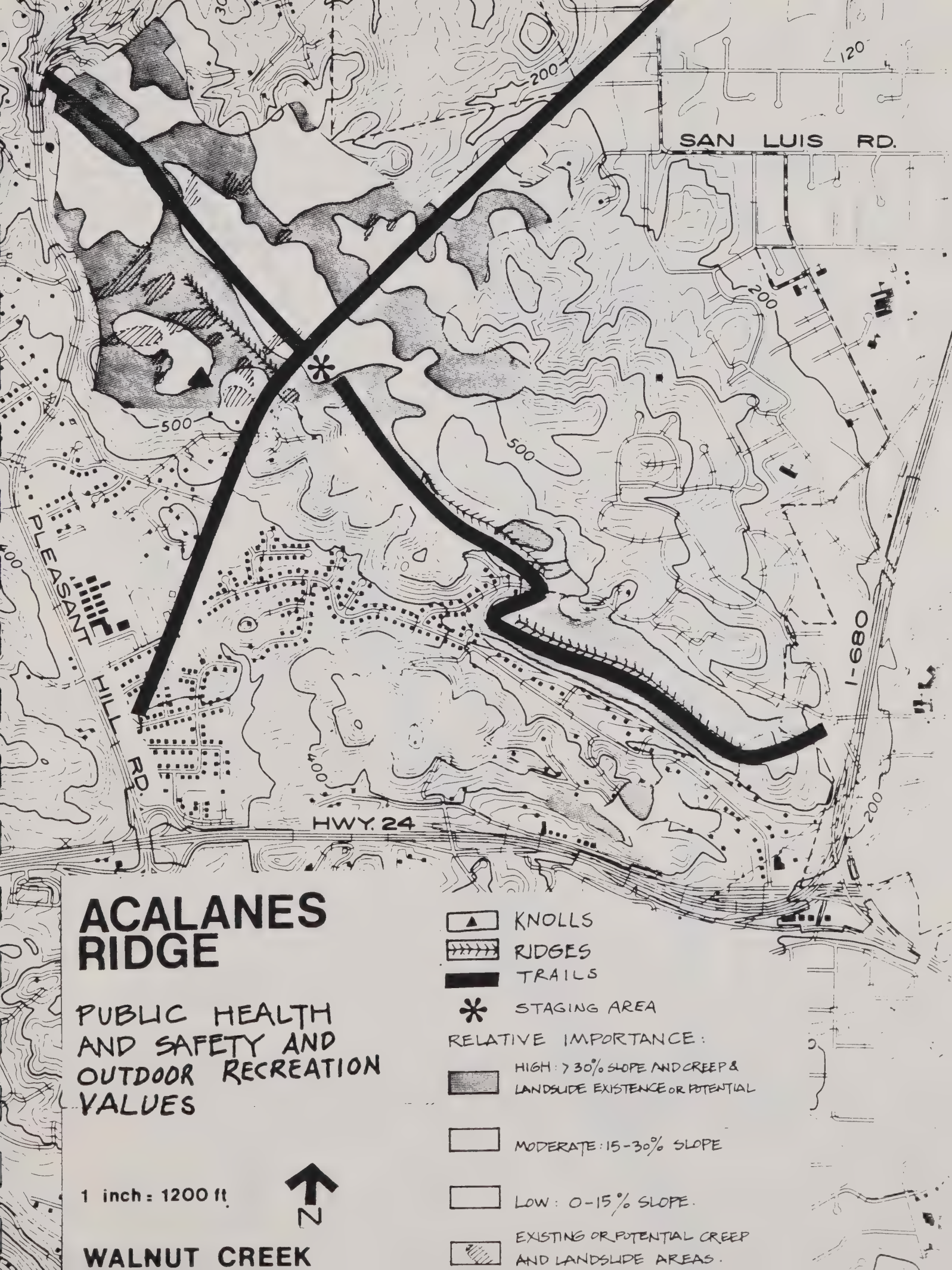
NATURAL RESOURCES
& MANAGED RESOURCE
PRODUCTION VALUES.

1 inch = 1200 ft.



WALNUT CREEK

-  RIDGES
-  KNOLLS
-  STREAMS.
-  ORCHARD
-  PUBLIC UTILITY R.O.W.
-  AREAS of WILDLIFE
IMPORTANCE



SAN LUIS RD.

500

500

120

200

I-680

HWY. 24

ACALANES RIDGE

PUBLIC HEALTH
AND SAFETY AND
OUTDOOR RECREATION
VALUES

- ▲ KNOLLS
- ▬ RIDGES
- ▬ TRAILS

* STAGING AREA

RELATIVE IMPORTANCE:

HIGH: > 30% SLOPE AND CREEP &
LANDSLIDE EXISTENCE OR POTENTIAL

MODERATE: 15-30% SLOPE

LOW: 0-15% SLOPE

EXISTING OR POTENTIAL CREEP
AND LANDSLIDE AREAS

1 inch = 1200 ft



WALNUT CREEK

Acalanes Ridge is extremely fractured into many parcels and ownerships. In addition, the site is divided into incorporated and unincorporated areas and, as has been noted, is split into two spheres of influence. The complexity of the ownership and jurisdictional pattern in combination with the varying physical characteristics and sizes of the parcels involved demonstrate the necessity of utilizing several implementation approaches to protect the site.

Even the zoning is complex. The dominant County zoning districts are R-10, R-15, and R-20. City zoning is dominated by the P-D zone on the Skymont property, although there is also some R-8, R-20, and S zoning. According to 1973-74 Assessor's information, land values vary significantly from about \$9,000 per acre for land located along the frontage road of the freeway to around \$1,300 per acre for less accessible hilly land. Most of the area seems to fall in the range of between \$2,000 and \$3,000 per acre.

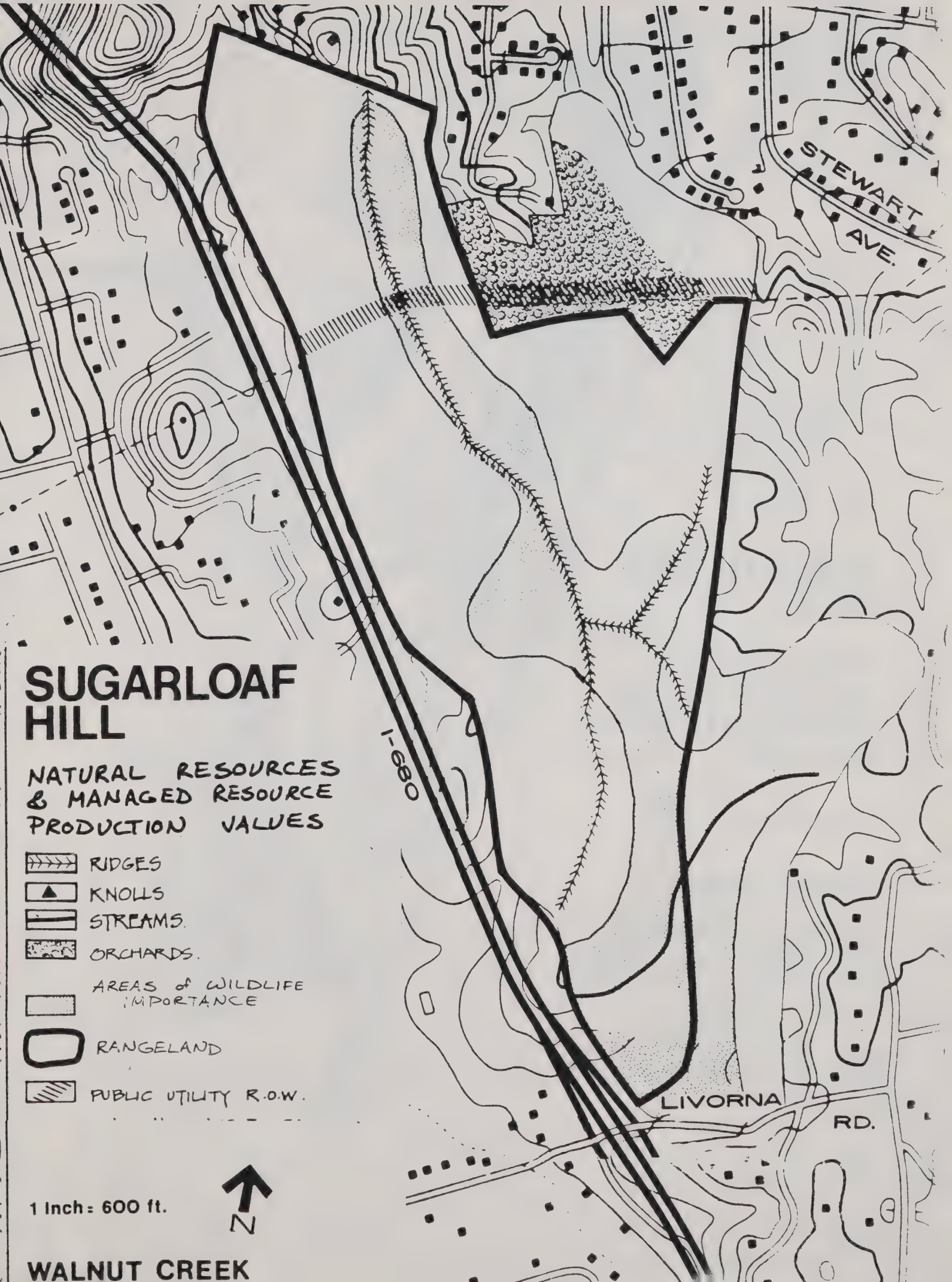
The primary value of the site is for outdoor recreation and scenic purposes. The ridge can be viewed from the northern parts of the Planning Area as well as from Freeway 24 where it acts as a greenbelt separating Walnut Creek from Lafayette. This site, and particularly the small ridge adjacent to Freeway 24, is the significant natural feature which identifies Walnut Creek as being a different urban place than Lafayette. The potential for recreational uses such as picnicking, equestrian activities, and hiking is heightened by its proximity and access from all directions. Natural resource values for wildlife and vegetation are found along the ridge in several areas and are especially prevalent in the vegetative communities which have significant tree coverage. On a larger scale, Acalanes Ridge serves as a pit of a "wildlife corridor" which stems from Lafayette Ridge and Briones.

Due to the steep slopes and ample evidence of landslides and slumping, several portions of the ridge must remain in its open state for the protection of public health and safety. Fire hazards are high in several areas due to the inability for getting access to much of the steep slope by conventional fire protection vehicles.

SUGARLOAF HILL:








The Sugarloaf Hill site is located along Freeway 680 between Rudgear Road and Livorna Road. The site is approximately 230 acres in size and is composed of one major ridge paralleling the freeway and several smaller offshoot ridges. Two separate valleys are located on the site, one at the north end of the site and the other at the south end. Most of the area is steeply sloping and there is evidence of a number of landslides and landslumps. The major use of the site at the present is horse grazing.

The principal open space values of the site are as a visual resource from the surrounding areas and from the freeway where the hills form part of a visual separator between Walnut Creek and the suburbs further south in the San Ramon Valley. In the future, as more and more urban development occurs, Sugarloaf Hill will be the critical natural feature giving Walnut Creek

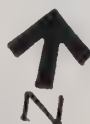


SUGARLOAF HILL

NATURAL RESOURCES & MANAGED RESOURCE PRODUCTION VALUES

-  RIDGES
-  KNOLLS
-  STREAMS
-  ORCHARDS
-  AREAS of WILDLIFE IMPORTANCE
-  RANGELAND
-  PUBLIC UTILITY R.O.W.

1 Inch = 600 ft.



WALNUT CREEK

SUGARLOAF HILL

PUBLIC HEALTH
AND SAFETY AND
OUTDOOR RECREATION
VALUES

1 inch = 600 ft.



WALNUT CREEK



RIDGES



TRAILS



KNOLLS



STAGING
AREAS



STREAMS

RELATIVE IMPORTANCE:



HIGH: >30% SLOPE AND CREEP &
LANDSLIDE EXISTENCE OR POTENTIAL



MODERATE: 15-30% SLOPE



LOW: 0-15% SLOPE.



EXISTING OR POTENTIAL CREEP
AND LANDSLIDE AREAS



NO DEVELOPMENT AREA (HPD)
(75' CONTOUR CLEARANCE)



NOISE IMPACT AREA

1-680

STEWART
AVE.

LIVORNA

RD.

a separate identity from most of the other urban areas to the south. The southern portion of the site, due to its easy access to the freeway, adjacent rural residential land uses, topography, and trail linkages, would be an ideal "staging area" for recreational purposes.

The most significant natural resources on the site consist of the perennial stream, riparian vegetation, and tree cover at the southern portion of the site which are critical to the proliferation of the abundant wildlife in that area.

Similar to other open space sites, the steep slopes and evidence of land slides and land slumps illustrate the value of retaining the hill in its natural state for the protection of public health and safety.

In terms of a managed production of resources, the preservation of Sugarloaf in its natural state would contribute to the continued recharge of water in this Walnut Creek basin. As range land, the site has several potentials if combined with some form of recreational use.

In the northern valley it appears that a limited amount of urban development located in the area of an old orchard could be tolerated with only minimal adverse effects on the open space qualities of the remainder of the site.

At the present time, most of the site is within the City of Walnut Creek. The bulk of this area is zoned H-P-D, although there is also some R-40 (40,000 square feet minimum lot size) and S (temporarily unclassified) zoning. The southern portion of the site which is in the County has been rezoned H-P-D by the City so that when it is annexed the H-P-D zoning will be applied. Currently, the unincorporated area is zoned R-20 (20,000 square feet minimum lot size). The majority of the Sugarloaf Hill site is divided into 18 separate parcels. Land values vary between \$5,600 per acre, as determined by Assessor's information, for the flat portions of the site to around \$1,850 per acre for the hilly areas.

LIME RIDGE:

Lime Ridge is the dominant ridge leading up to Mt. Diablo along the eastern edge of the Planning Area. It forms an important visual backdrop to the urbanized portions of Ygnacio Valley, and is a natural greenbelt separator between the communities of Walnut Creek and Clayton to the east. The dominant use, at present, is cattle grazing. While the site is located within the ultimate service area of the Contra Costa County Water District, there is at present inadequate water pressure to serve the area, and the water district has no plans to expend the funds necessary to construct the facilities needed to serve these higher elevations.

As with other sites, most of Lime Ridge has steep slopes and large areas of unstable ground. The recently noted Concord fault runs along the base of the ridge. The numerous geologic conditions which exist throughout the ridge supports the use of the land as open space for the protection of public health and safety.

Within the Lime Ridge site, numerous locations are of value for the protection of natural resources. Although several specific plant communities and wildlife habitats can be identified, their survival depends largely on the preservation of the ridge as an entire unit. The ridge also serves as a major portion of the water shed which drains into the Clayton and Ygnacio Valleys.

The primary use of Lime Ridge for the managed production of resources is as range land. Currently, the majority of the land is used for this purpose and is of economic importance for the production of food.

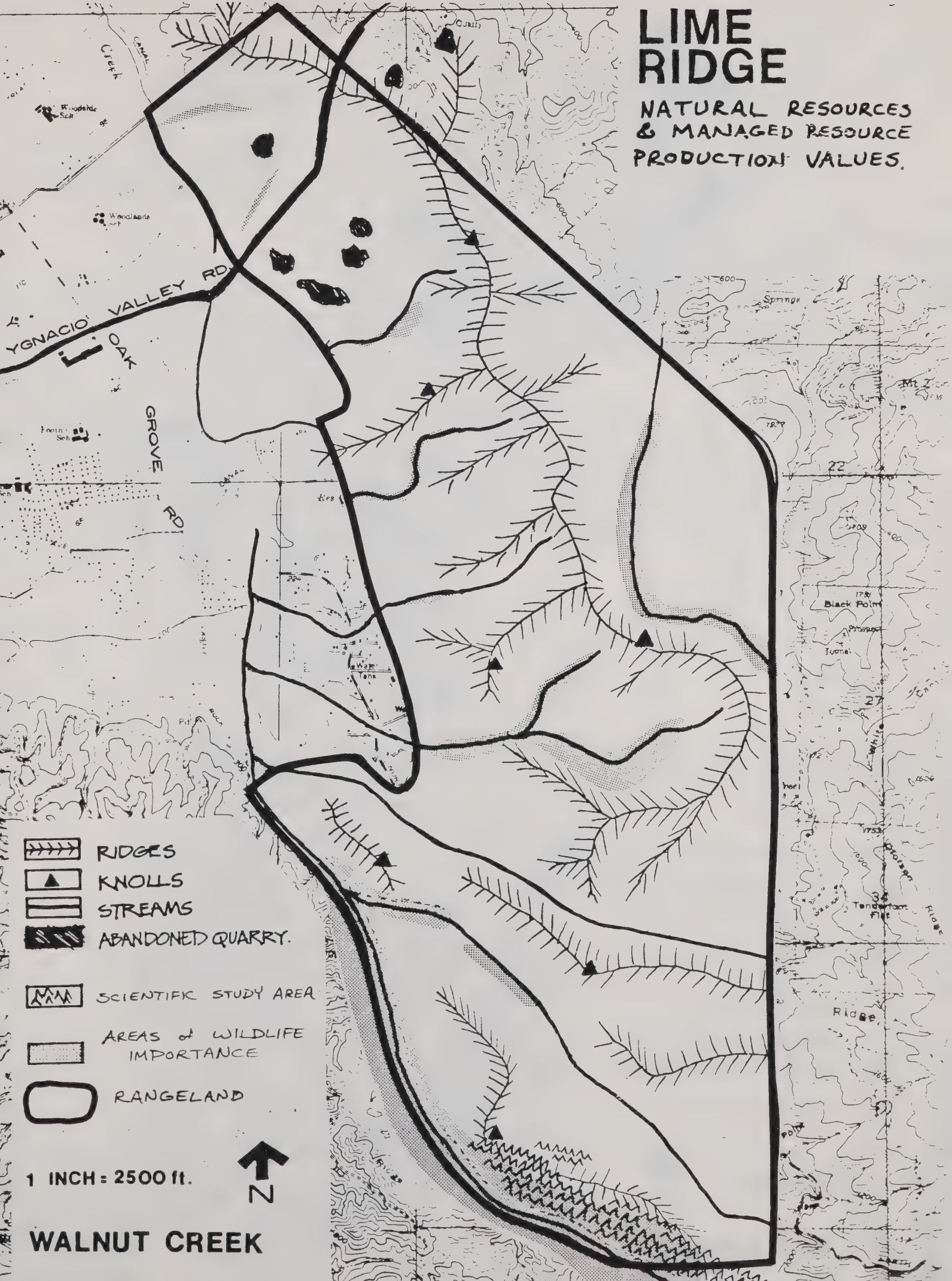
Another open space value of the Lime Ridge site is its visual contrast with urban development in Ygnacio Valley and as a greenbelt separator with municipalities to the east. Although the abandoned quarries near Ygnacio Valley Road are a visual scar, the scenic continuity of the ridge line would be lost if any development were to occur. Many portions of Lime Ridge, especially lands near Ygnacio Valley Road at the north and near Pine Creek and Little Pine Creek near the southern portion offer several opportunities for recreational uses. Especially in demand is the location for the regional recreational area.

Most of the ridge top as well as the southern portion of the ridge are at present under Williamson Act contracts. These contracts with the County and the underlying A-1, Agricultural Preserve zoning can be expected to protect the visual quality of those portions of the ridge for at least 10 years. However, in the northerly most visible portions of the ridge, there are some significant gaps in the protection afforded by the Williamson Act. One large area of over 250 acres in the County, extending from the valley floor up to the 800-foot contour line, is not at present under contract. This area is currently zoned A-2 which permits subdivision into one-acre lots. Another even larger unprotected area lies east of the Municipal Golf Course and is within the City limits. This area is at present zoned H-P-D.

A third area of concern lies in the northeast corner of the planning area and is currently rezoned H-P-D. Totalling over 200 acres, this land is the most developable portion of the entire ridge. The 1973-74 Assessor's land values indicate a value of approximately \$2,300/acre on those parcels not under Williamson Act contracts.

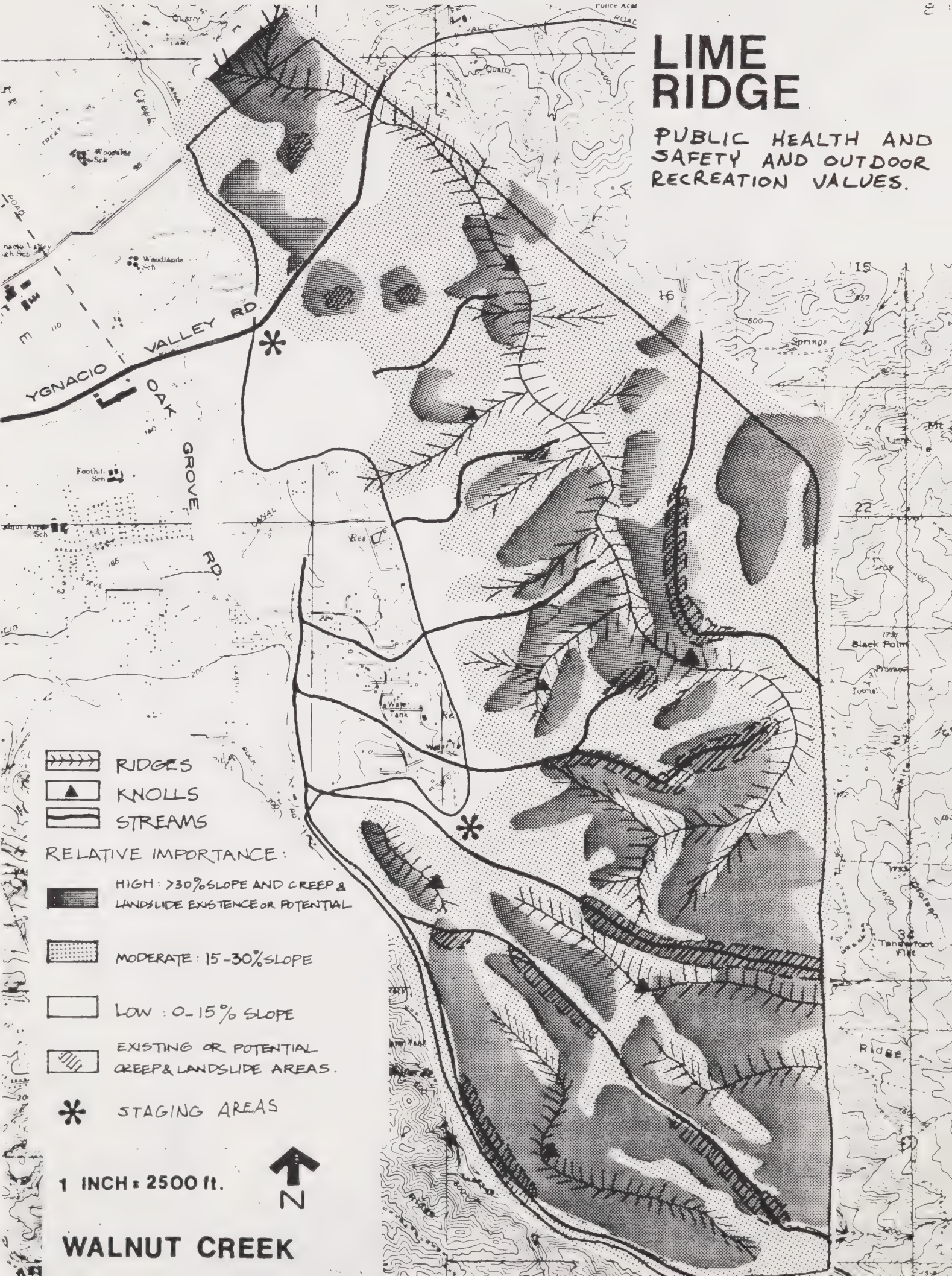
LIME RIDGE

NATURAL RESOURCES
& MANAGED RESOURCE
PRODUCTION VALUES.



LIME RIDGE

PUBLIC HEALTH AND
SAFETY AND OUTDOOR
RECREATION VALUES.



RIDGES



KNOLLS



STREAMS

RELATIVE IMPORTANCE:



HIGH: $>30\%$ SLOPE AND CREEP & LANDSLIDE EXISTENCE OR POTENTIAL



MODERATE: $15-30\%$ SLOPE



LOW: $0-15\%$ SLOPE



EXISTING OR POTENTIAL CREEP & LANDSLIDE AREAS.



STAGING AREAS

1 INCH = 2500 ft.



WALNUT CREEK

ACTION PROGRAM

PURPOSE

According to recently enacted state law all general law cities and counties are required to have adopted an open space element to their general plans by December 31, 1973. (Section 65563, Government Code as amended by Chapter 251, Statutes 1972). The addition in 1970 of the open space element to the list of required general plan elements marked a real departure from the traditional approach the State had taken with respect to local general plans. With the addition of this new element the State added the requirement that the open space element must be implemented.

The law now requires that every open space element contain an "action program consisting of specific programs which the legislative body intends to pursue in implementing its open space plan." (Section 65564, Government Code). Moreover, the law has been amended to require the adoption of an open space zoning ordinance by January 1, 1974. (Section 65910, Government Code as amended by Chapter 251, Statutes 1972.) The significance of the new requirements for adopting an open space element and the emphasis on implementation becomes readily apparent when it is realized the law also states:

"Any action by a county or city by which open-space land or any interest therein is acquired or disposed of or its use restricted or regulated, whether or not pursuant to this part, must be consistent with the local open-space plan." (Section 65566, Government Code)

and

"No building permit may be issued, no subdivision map approved, and no open-space zoning ordinance adopted, unless the proposed construction, subdivision or ordinance is consistent with the local open-space plan." (Section 65567, Government Code)

The implications of these recently enacted provisions of state law are extremely important for the development of a comprehensive program of park, trail and open space preservation. An open space plan must be prepared, an implementation program developed, and all future development proposals as well as proposals by local governments to acquire or dispose of land must be referred directly to the open space plan for consistency. The measure of a plan's success must be the degree to which the plan is implemented. Yet it can be said that the weakest part of most open space plans is the inadequate manner in which implementation is described and defined. It seems abundantly clear that if the open space and recreational resources of Walnut Creek are to be preserved, a more far-reaching, detailed and innovative implementation program is needed. The existing commitment of the City of Walnut Creek to

preserving its open space resources has been analyzed, including the factors of personnel, the techniques (zoning, Williamson Act, open space easements, etc.) and the financial resources applied. Ideas developed in other cities and counties have been examined, along with recent and pending state legislation, and emerging trends in governmental organization. Out of this analysis, and in recognition of the basic inadequacies of traditional approaches to preserving open space and parks, a comprehensive implementation program has been developed which is suited to the unique situation, needs, and aspirations of Walnut Creek. 8-18

Due to similarities in the nature, purpose, and timing of the Park, Trail, Conservation, and Open Space Elements, the action program is presented as a package which outlines several tools common to the individual elements as well as means related to each specific plan element. The action program is intended to be firm in its efforts to accomplish the goals of the plan, yet flexible to permit use of alternative solutions should any portion of the program become unobtainable.

The City Council finds that "open space" as used in the action program means public parks left basically in their natural, undeveloped state to be used for recreational purposes such as, but not limited to, hiking, biking, equestrian purposes and picnicking.

IMPLEMENTATION MEASURES

The following are a list of alternative measures recommended for the successful implementation of this comprehensive planning program:

Staff Open Space Specialist

A trained and experienced specialist within the City staff should be hired to carry out an active promotional campaign to protect and acquire the City's parks and open space resources. This specialist should be retained even if a county service area is established. In a few years, depending upon the success of his work, this position would become more of a land management job. The staff person hired for this position would perform numerous functions, but initially at least the key ingredient in whatever success he is to have can be summed up in the word "promotion." He would:

Promote gifts of land and funds for open space, parks and trails by contacting landowners and pointing out potential income tax benefits in terms of charitable deductions, adjusted gross income, capital gains treatment, and reduction of estate taxes.

Promote participation in the Williamson Act and Open Space Element programs by organizing informational meetings and carrying out follow-up personal contacts with landowners to describe the programs as they might apply to particular situations.

Promote the acquisition of open space and parks by initiating bond issues on the ballot, suggesting new revenue sources, and pursuing grants from state and federal governments, as well as from individuals and foundations.

Promote and encourage the efforts of private non-profit organizations such as the Nature Conservancy and Trust for Public Land, to receive grants of money and land, to purchase land or take out options on land in situations where the machinery of government cannot move quickly enough to buy or otherwise prevent the loss of open space or potential park sites.

Promote educational programs for local residents to expand knowledge of and interest in the values of open space and parks and to communicate the opportunities for enjoyment and personal development which can only be found in association with natural areas by such means as preparing slides shows, movies and discussion programs to be given to organized groups and in schools, and by working with the media in informational programs.

In order to perform his role successfully, it is essential that during the first two or three years the Open Space Specialist not become mired down in day-to-day administrative tasks which will detract from his promotional duties. The specialist must have a degree of authority and independence commensurate with the nature of his work and the need to act quickly when opportunities present themselves.

A very useful device to enable the Open Space Specialist to act quickly when necessary would be the creation of an emergency fund for park and open space and trail acquisition. Such a fund, subject to City Council approval, could be used by the Open Space Specialist to acquire parcels of land or to obtain options on land which met certain criteria, such as being indicated for acquisition in the Open Space Plan. If an opportunity arose requiring quick action, the Open Space Specialist could react without necessitating going through protracted budgeting procedures and possibly missing opportunities for key acquisitions.

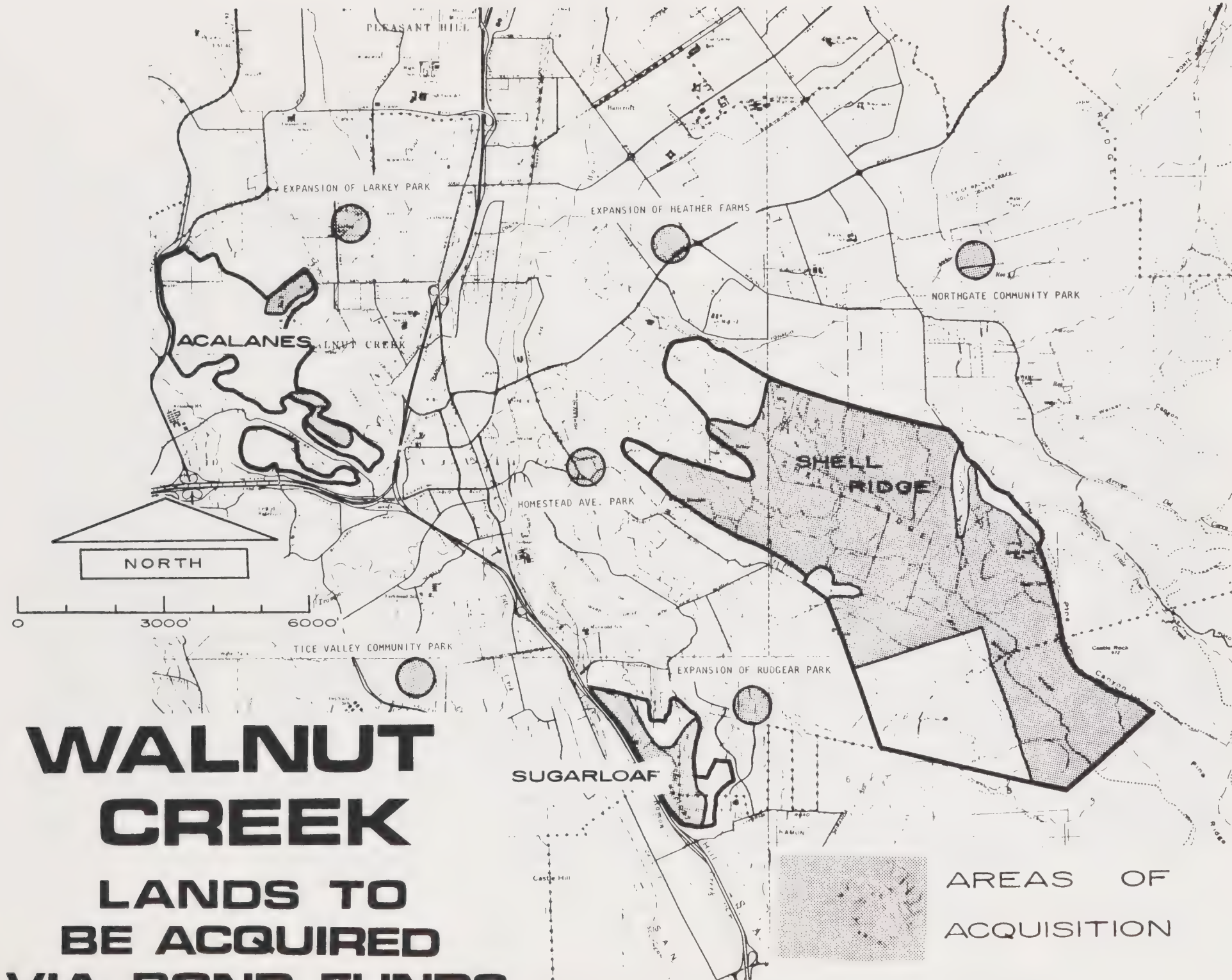
The efforts of the Open Space Specialist might be complemented by the participation of members of the public such as the members of the Citizens' Open Space Action Committee. These representatives could be especially effective in laying the groundwork for promotional activities by acting as liaison with interested, or potentially interested, groups and individuals.

BOND ELECTION COSTS:

The most sure way of preserving open space and park land as well as the natural values of these areas is through direct purchases. Although a bond election is only one method of raising funds and direct purchase is only one form of acquisition; use of a bond election would provide the community the opportunity to decide by a ballot their desire to assess themselves for land acquisition purposes. The four open space sites evaluated by the consultants have a combined value of between \$3.3* and \$4.3 million. The park acquisitions outlined by the Open Space Action Committee call for land purchases of \$1.1 million. An additional \$29,000 is needed for purchase of critical trail easements. In order to finance the purchase of recommended areas, it is urged that a County Service Area be created covering the entire Walnut Creek Planning Area and a general obligation bond issue be placed before the voters for approval in June 1974.

*This figure is based upon 1973-74 County assessment figures as adjusted in some cases where more accurate valuation data was available. The \$3.3 million figure includes only those areas where purchase is recommended and excludes those areas where urban development was to be permitted or where zoning and open space easement or Williamson Act contracts would suffice.

The cost impact of \$4.4 to \$5.4 million bond issue, based upon a 6 percent interest rate, a 30-year term, and a total assessed valuation of the Planning



WALNUT CREEK

LANDS TO BE ACQUIRED VIA BOND FUNDS

AREAS OF
ACQUISITION

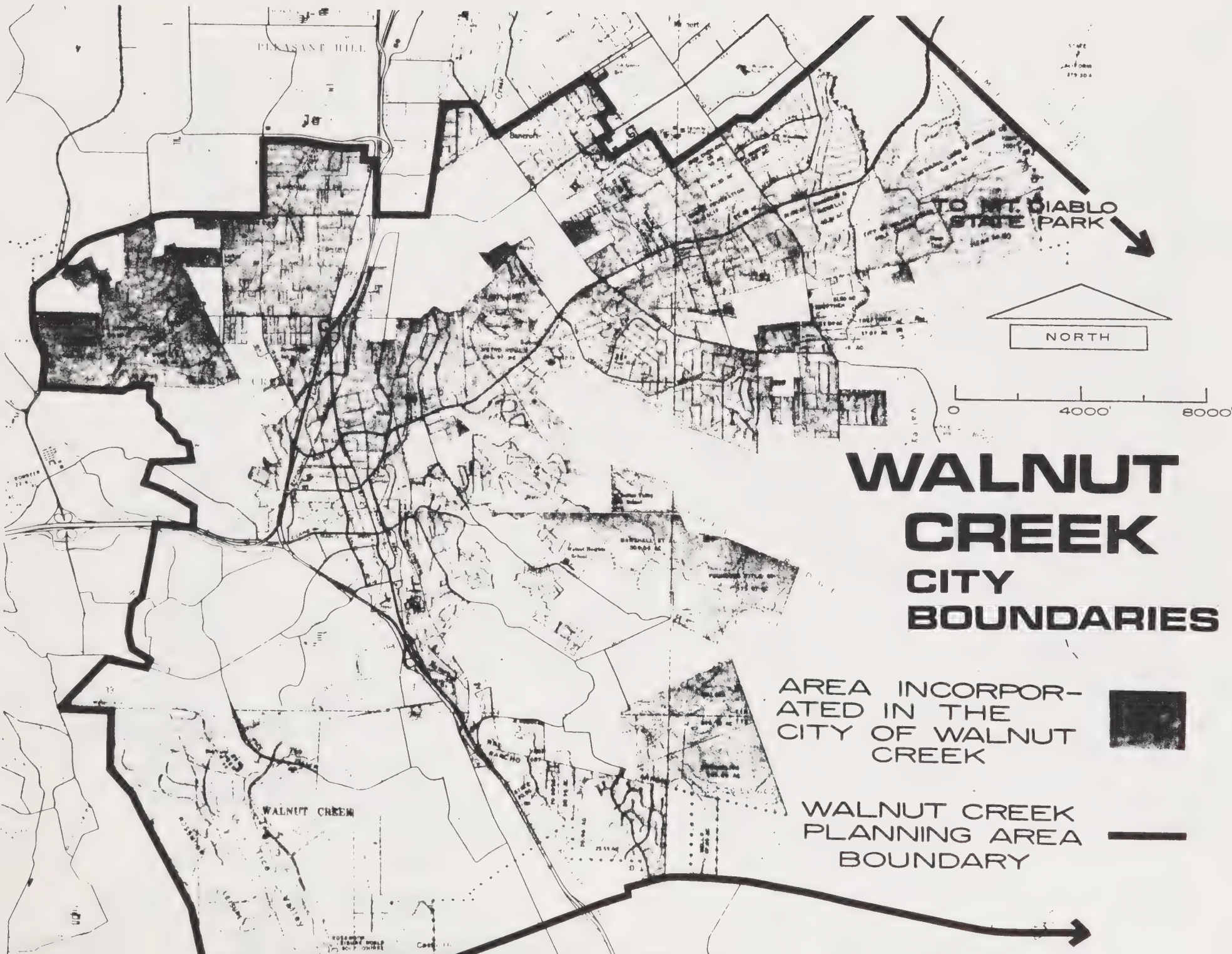
Area of \$282 million indicates that an increase in the tax rate of between 12-14 1/2¢/\$100 would cover the repayment of the bonds. Thus, for between \$1.00-\$1.20 per month for a \$40,000 house, all of the significant open spaces, parks and natural resources within the planning area could be purchased. It should be further noted that as the assessed value of the Planning Area increases, the cost of repaying the bonds is spread over a broader tax base and the annual tax rate would decrease accordingly. On the other hand, it is true that by purchasing the open space and parks, the City is removing lands from the tax rolls. The impact of this removal, however, is almost insignificant, less than one-half of one percent of the assessed value of the Planning Area. It should also be remembered that while every effort has been made to use accurate land valuation data, it will be necessary to have each of the open space sites subjected to a thorough appraisal by professionally qualified persons. Moreover, a program of leasing some parts of some of the open space sites for cattle and horse grazing would not only provide some income to the City from the leases and from the possessory interest tax, but it would also reduce the fire hazard from tall grasses. The East Bay Regional Park District leases large portions of its holdings for cattle grazing for around \$5 an acre per year. Horse pasture brings closer to \$9 an acre per year. Since much of the open space in and around Walnut Creek is already in use for cattle, and since there is a high demand for horse pasture in the area these two uses could well be of value to the City.*

County Service Area

The formation of a County Service Area is an ideal approach to financing an open space acquisition program in a place like the Walnut Creek Planning Area where much of the area is unincorporated territory. Since County Service Areas can include incorporated as well as unincorporated lands, this kind of special taxing district can be created in a manner which reflects more accurately than do the City boundaries the areas which would benefit most from the open space and park acquisition program.

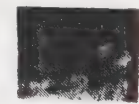
Under the County Service Area the County Board of Supervisors is the governing body (although the Supervisors can create an advisory board composed of residents within the area), and has the responsibility to levy an annual property tax on all property within the Service Area. This tax must be sufficient to cover the costs of providing the services which were agreed to when the County Service Area was formed or which were added through subsequent actions. The annual property tax levy must also cover the repayment of any outstanding bonded indebtedness resulting from the approval of a bond issue by the voters within the Service Area.

* The cattle are normally on the range only during the spring and fall. The Park District in its years of experience has not noted any serious conflicts between people and cattle on their lands, however, it should be noted that bulls are not normally stocked. Furthermore, they do not have any problem getting leases.

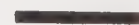


WALNUT CREEK CITY BOUNDARIES

AREA INCORPORATED IN THE CITY OF WALNUT CREEK



WALNUT CREEK PLANNING AREA BOUNDARY



Bond Election Procedures:

Use of a bond based on the boundaries of the planning area as one means of preserving open space involves procedures creating a County Service Area and a property tax levy. The first procedure merely creates the vehicle for achieving a specified end, namely the preservation of open space; the second procedure, involving a bond election, determines the extent of financial commitment the residents within the Service Area are prepared to make to achieve that end. In other words, the creation of a County Service Area in itself does not obligate the residents to a given level of increased property taxes. The procedure for approving bonds to finance the land acquisition program can commence once the County Service Area has been created. A two-thirds vote of approval is required for the issuance of general obligation bonds, and these bonds enjoy the same tax exempt status as bonds issued by a municipality.

In order to maximize the chances of passing a bond issue with the requisite two-thirds majority, it is essential to set up an effective campaign organization. This campaign organization should have a core group of dedicated people who have lots of contacts with interested groups and individuals which will open up leads to expert resource persons, volunteers, and funds.

In a door-to-door campaign, it is extremely useful to have something to leave behind as a reference and reminder to a potential supporter. The preparation of a one-page fact sheet can serve this purpose admirably. The fact sheet should provide any basic information pertinent to the bond election and should directly address the question of cost to the homeowner. While the benefits of open space parks and trails should certainly be stressed in the fact sheet, it may also be useful to point out the alternative in terms of urban development if open spaces are not preserved.

Endorsements for the park, trail and open space bonds should be sought from individuals and groups. Endorsements from prominent public figures such as the Mayor, members of the City Council, Planning Commission, and Parks and Recreation Commission, religious leaders, businessmen and other notable citizens lend prestige to the campaign and demonstrate responsible support for the bond measure. Group endorsements are also of value from such groups as the League of Women Voters, conservation organizations, the taxpayers association, homeowners associations, labor unions, service clubs, the Chamber of Commerce, the Central County Citizens for Density Control, and the American Association of University Women. Each group supporting the bond measure should be encouraged to endorse the measure in the organization newsletter or in a special mailing to members.

Obviously in any campaign the media is critically important. Press releases should be short, with important information in the opening paragraphs, since longer statements will be edited. A simple and graphic picture will help induce newspapers to print the release and draw attention to the article. Supporters of the measure should send letters to the editors of the local newspapers endorsing the bonds. This is particularly important when there is little newspaper coverage of the campaign or when an unfavorable editorial has been published. Newspaper ads should also be taken to support the open space bonds and list the names of groups and individuals endorsing the measure. The ad can also mention that donations are needed to help defray the expense of the ad. Supporters should also contact local radio and television networks to request time on talk shows to explain the bond measure and express support.

Other Revenue Sources

State Beach, Park, Recreational, and Historical Facilities Bond Act of 1974. In June, 1974, the voters of California will be asked to approve a \$250 million general obligation bond issue to provide funds to acquire and establish beaches, parks, recreational facilities, and historical resources in accordance with State Beach, Park, Recreational, and Historical Facilities Bond Act of 1974. Most of the money will be utilized by the State for the above proposed, however \$90 million will be "For grants to counties, cities, or cities and counties for the acquisition, development, or acquisition and development, of real property for park, recreation area, beach and historical purposes including state administrative costs". The \$90 million local share will be allocated to the counties based upon the 1980 Department of Finance projected population. It is estimated by the State that Contra Costa County would be eligible to receive approximately \$2.4 million.

In order for the Walnut Creek Planning Area to maximize its share of these funds should the bond issue pass, the planning area should first pass its own bond issue and then encourage the County to give highest priority for the expenditure of its funds on a matching basis with those cities which have already passed a bond. In this way local bond monies will be stretched as will the County's.

One of the interesting features of this bond issue, besides the money it would provide, is that the legislation authorizing the bond election specifically provides for the use of condemnation by local governments to acquire open space lands in which bond monies are used. In the eventuality that Walnut Creek's open space purchase program was having difficulty with one or two landowners, and any sort of legal questions was raised about the City's authority to condemn open space land, it could be useful to apply the State bond monies and the powers which go with them to the land in questions. Needless to say the City should actively endorse the state bond issue.

Federal Grants

Federal grants should also be considered in a park and open space acquisition program. Unfortunately they are so popular that the applications generally exceed the available funds, and consequently, grants are difficult to obtain. Nonetheless, the following two programs are important sources of money and should not be discounted:

Open Space Land Program. The Department of Housing and Urban Development provides matching grants covering up to 50 percent of the costs of acquiring and developing recreational, conservation, scenic, and historic. The future of this program is in question, however, since this is one of the categorical grant programs the national administration would like to eliminate. It was recently suspended, and it is hoped it will be replaced by a more general revenue sharing type of program under the Better Communities Act.

Land and Water Conservation Fund. This program provides funds to state and local agencies on a 50-50 matching basis. Grants are made for projects varying in type from hiking trails to swimming pool complexes, and from inner city mini-parks to regional parks. Local applications are directed to the State which administers the program for the Department of Interior. To qualify for assistance, each acquisition or development project must meet high priority public recreation needs shown in the action program portion of the State Outdoor Recreation Resources Plan. The local agency must agree to permanently dedicate projects to public outdoor recreation use, and assume responsibility for continuing operation and maintenance. Beginning with the 1973-74 fiscal year the local agencies share of the funds will be allocated to each of the State's ten planning districts. Based upon \$5 million being made available to local agencies in California, Contra Costa County's district, which covers the nine Bay Area counties, will receive \$1.1 million.

City-County Relations - One of the major complicating factors involved in the City's program to preserve open space within its Planning Area is the fact that most of the lands are in unincorporated territory, thereby limiting the City's ability to protect these areas. The reason that this is the case is due to the reluctance of large open space land-owners to agree to pay city tax rates since they don't need city services while the land remains in its natural state.

This lack of direct control by the City points up the necessity for the City and County to work closely together in any preservation program. The most direct way to handle this problem would be for the County to agree not to approve any more urban development proposals within the Walnut Creek Planning Area. In other words, before any land could be developed it would have to be annexed to the City, and the City, by controlling annexations, could determine which areas would remain undeveloped.

Along with this type of cooperation, the City should seek County concurrence on this plan. This could be followed by the County adopting an ordinance comparable to the City's H-P-D zoning to be applied on the appropriate hillside areas. In addition, the County should institute its own open space easement program to be meshed with the City's.

As a means of encouraging County participation in our open space efforts, the City should prepare specific plans for all open space areas and seek County concurrence for areas within their direct jurisdiction.

In addition to the above measure, the City should support the current proposal before the County Planning Commission to increase the minimum lot size in the County's A-2 zone from 1 acre to 5 acres. Many unincorporated areas within and adjacent to the Shell Ridge and Lime Ridge open space areas are currently zoned A-2. This means these areas could be chopped up into one acre home sites thereby destroying the essential open space qualities of these areas.

If the County does amend the A-2 zone as described, it is recommended that the City request the County to rezone those lands indicated on the Implementation Maps to the A-2 classification. Should the County decide against amending the A-2 zone, then the areas indicated on the maps should be rezoned to either the R-100 (100,000 square feet minimum lot size) or to A-3 (10 acre minimum lot size) zoning districts. Another

important zoning change the City should request of the County is the change from A-2 to A-3 of large areas within the heart of the Shell Ridge and Lime Ridge open space areas. These recommended rezonings will not only reflect more accurately the existing land use situation, but will offer greater protection against the indiscriminate dissection by subdivision of these valuable open space sites.

AB 920 - AB 920, a bill currently before the State Legislature, is potentially an even more significant source of revenue for open space acquisitions. This bill, if enacted, would provide a continuing source of revenue to local governments from a property transfer tax imposed at the rate of 1.1 percent of the value of the property transferred. All owner-occupied homes would be exempt from the tax, and the first \$50,000 of all other real estate transfers would also be exempt. The bill has already passed the Assembly Planning and Land Use Committee and is currently before the Revenue and Taxation Committee. It is recommended that the City notify Assemblyman Boatwright, who sits on this committee, of their support for AB 920.

East Bay Regional Park District - In the near future the Board of the East Bay Regional Park District will be considering for adoption a new plan which will establish priorities for future regional parkland acquisition. Two of the sites which they will be evaluating, Arroyo del Cerro and Castle Rock, are in or adjacent to the Shell Ridge open space site. Due to the size, location and natural qualities of the Shell Ridge site it might be possible for the City to persuade the District to include all or at least a greater portion of Shell Ridge as a regional park. The City's persuasive efforts would be considerably enhanced by offering to contribute some share of the total acquisition cost and by offering to donate to the District open space lands already owned by the City. This form of cost sharing might be sufficiently appealing to the Park District Board so that they would agree to help finance the purchase of the Shell Ridge site. It is recommended that the City continue their contacts with the Park District to see if some mutually advantageous arrangement can be made.

Land Use Controls - Hillside Planned Development Zoning - The City has at present a Hillside Planned Development (H-P-D) zoning classification which, when used in conjunction with the required environmental impact reports, can be a very effective instrument for controlling large developments. The list of purposes spelled out in the ordinance are consistent with achieving strong open space and conservation objectives as are the principal standards of the ordinance. Factors such as density, open space preservation, ridgeline protection, design quality, landscaping, grading and slope are all covered.

While the H-P-D ordinance is generally an effective tool in obtaining open space in conjunction with development, there appears to be one area where it could be strengthened. It would be desirable to provide stronger protection for streams and ponds and associated riparian vegetation in much the same way that ridgelines are protected. It is

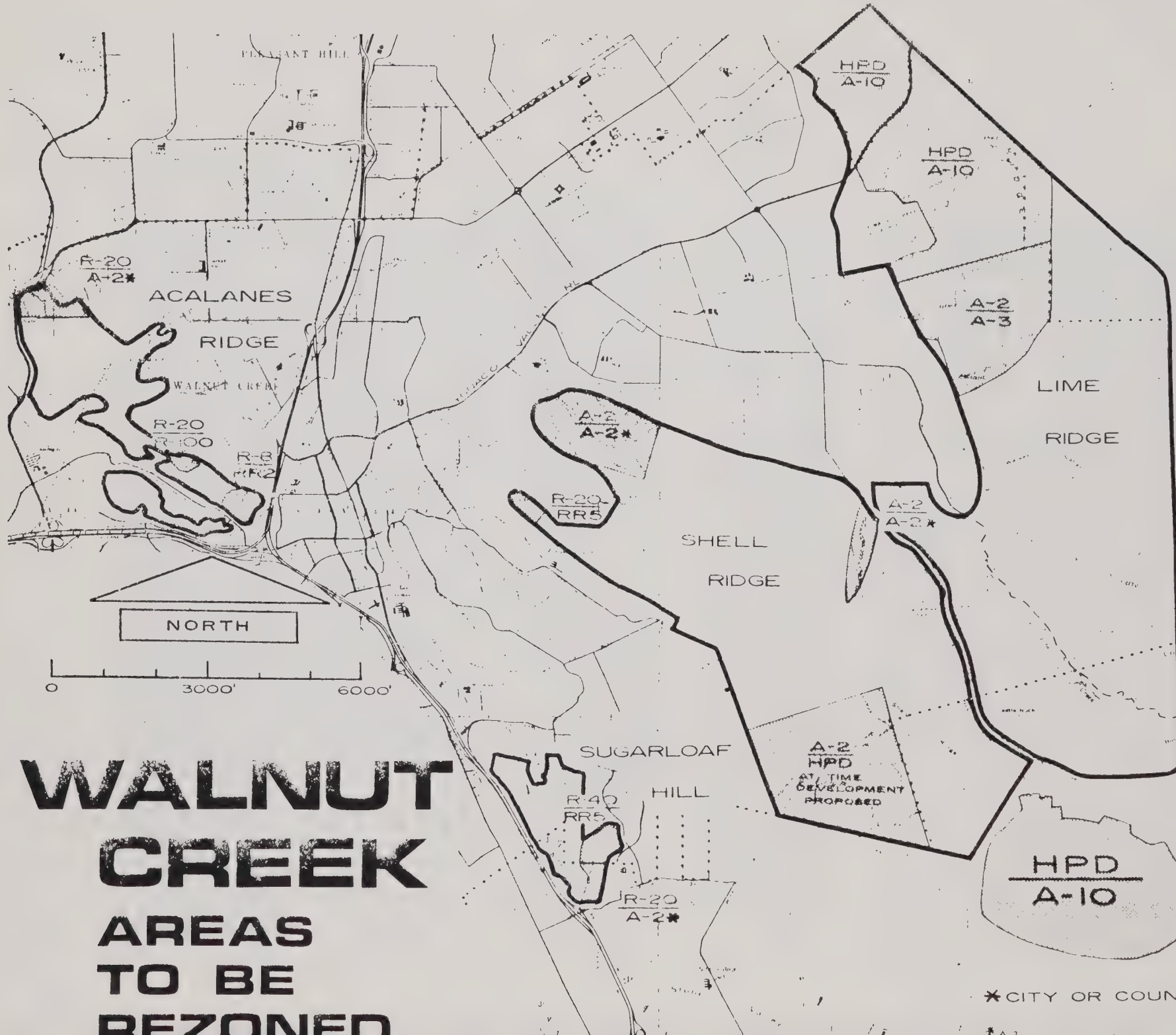
therefore recommended that the ordinance be amended to specifically prohibit building near streams and ponds and destroying riparian vegetation, and that views of streams and ponds as well as access to and along them be protected.

The H.P.D. is intended to serve as one alternative form of implementation and can be used either in conjunction with a purchase program or simply as a regulatory measure. However, use of the H.P.D. on each of the major hillside parcels will be reevaluated at that time when specific plans are prepared for each site.

Rural Residential Zoning - In addition to amending the H-P-D ordinance, it is recommended that the City create new "Rural Residential" (RR) zoning districts. The RR zones would be designed to ensure that those parts of the community which have already developed into rural residential home sites from 2 to 10 acres in size will not be re-subdivided through the minor subdivision process to the point where the rural residential environment is destroyed and urban type services and facilities are required to be provided. The importance of rural residential areas as buffers near large open space areas should not be overlooked, and, as will be discussed later in this report, the fact that these areas cannot be re-subdivided once the RR zoning is applied might serve as an inducement to landowners to dedicate open space easements. At the present time the City's zoning ordinance has a residential zoning classification R-40 which permits residential development on lots of 40,000 square feet, and another classification A-10, which has a 10 acre minimum lot size. There is a considerable gap in lot sizes between these two classifications, and, therefore, it is recommended that the City create RR-2 (2 acre minimum lot size) and RR-5 (5 acre minimum lot size) zones to fill this gap and to protect not only the life styles of people who enjoy a semi-rural living environment, but also to provide some physical and visual protection to the exposed flanks of valuable open space areas. While there are relatively few rural residential areas currently within the City--most are within unincorporated areas--the RR zones should be of value in the future as some of these areas are annexed and the City becomes responsible for their zoning.

Initial use of this rural residential zoning is intended for the northernmost fingers of Shell Ridge, the southeastern tip of Acalanes Ridge and the parcels above the valley at the southeastern corner of Sugarloaf Hills.

Specific Plans - Another land use control the City should make use of is the "specific plan". Specific plans are very detailed plans prepared for designated parts of a city which can indicate the exact location of structures, open spaces, streets, etc., within the area, and which "....shall include all detailed regulations, conditions, programs and proposed legislation which shall be necessary or convenient for the systematic implementation of each element of the general plan...." (Section 65451, Government Code).



WALNUT CREEK AREAS TO BE REZONED

PRESENT
ZONING *

PROPOSED
ZONING *

* CITY OR COUNTY ZONING

* A-2

The use of specific plans could be an important instrument for preserving open spaces within developed or soon to be developed areas by demonstrating in advance to potential subdividers and developers the specific conditions to be met prior to submission of tentative subdivision maps, or development applications, and prior to issuance of building or other permits; that is, the local legislative body can place itself in the position of pre-determining which areas should remain in open space rather than accommodating itself solely to the wants of the proponents.

It is recommended that the Staff Open Space Specialist along with other planning staff be responsible for developing specific plans for each of the open space sites to set more definitive standards for the type and location of any development which might be permitted, and to create plan lines for open space acquisition, dedication and easements. In unincorporated areas the City staff should draw up the specific plans, and the City should seek their adoption by the County Board of Supervisors.

Open Space Easement Contracts - Section 51050 of the Government Code permits cities and counties to accept grants of open space easements. An open space easement can cover an entire parcel or any portion of it, and prohibits building on that area for a minimum term of 20 years. In return the landowner obtains a reduction in real property assessment because the land must then be assessed on its open space value rather than on the basis of a greater development potential.

It is recommended that the City commence an active program through its Staff Open Space Specialist of encouraging property owners to enter open space easement contracts where the lands are of a suitable nature in terms of size, use and location (e.g. on the periphery of the open space sites) to provide support for open space. Preparatory to this the City Attorney should draw up a sample open space easement contract which fits Walnut Creek's needs.

While some may wonder if a tax reduction will be a sufficient incentive for property owners voluntarily to surrender the development potential of their land and enter into open space easement contracts, it should be kept in mind that this device is to be used selectively and that property tax reductions are not the only incentive. In the first place, the areas where easements are to be sought should be zoned for rural residential uses so that the parcels cannot be further subdivided and the rural environment destroyed. Once this has been done, the Staff Open Space Specialist can meet with the property owners and point out that since they cannot subdivide and develop their land further it is in their interests to sign easement contracts to ensure the protection of the rural environment they enjoy living in, as well as to receive possible property tax reductions. Furthermore, it should be pointed out that since they will live in close proximity to a large publicly owned open space area their property values will increase and the rural residential environment will be enhanced.

The initial success of the program will depend largely upon the approach used by the Staff Open Space Specialist in gaining an acceptance within each of the areas where easements are recommended. Once property owners see that a neighbor has signed a contract, they will be much more inclined to do the same. Therefore, it is important to select the first contracts carefully, i.e., influential landowners who will be most receptive to the program and where there is the greatest chance for success. The subsequent success of the program will depend on developing a program of landowner contacts, after they have signed easement contracts, to remind them of the provisions of the contract. This is essential to guard against unwitting violations of the contract which may damage important open space values.

Overlay Approach







One approach to meeting the requirements of the Government Code which mandates the conformance of zoning to the General Plan is to use an "open space overlay zone." This technique would help implement the plan by setting developmental performance standards that would be applicable to all zoning districts on which this criteria would be overlaid. An example of this would be a regulation prescribing that no buildings could be constructed within 50 feet of a stream or pond. Types of overlay zones for which performance standards can be developed are ones for drainage, flood control, and water resources.

Direct Action

The maps on the following pages delineate implementation methods recommended for each portion of the four major open space sites. In those areas where a combination of development, dedication, and purchase is to be used, the City staff shall prepare specific plans delineating precise locations for development and open space preservation.

SHELL RIDGE

IMPLEMENTATION: BOND ALTERNATIVE

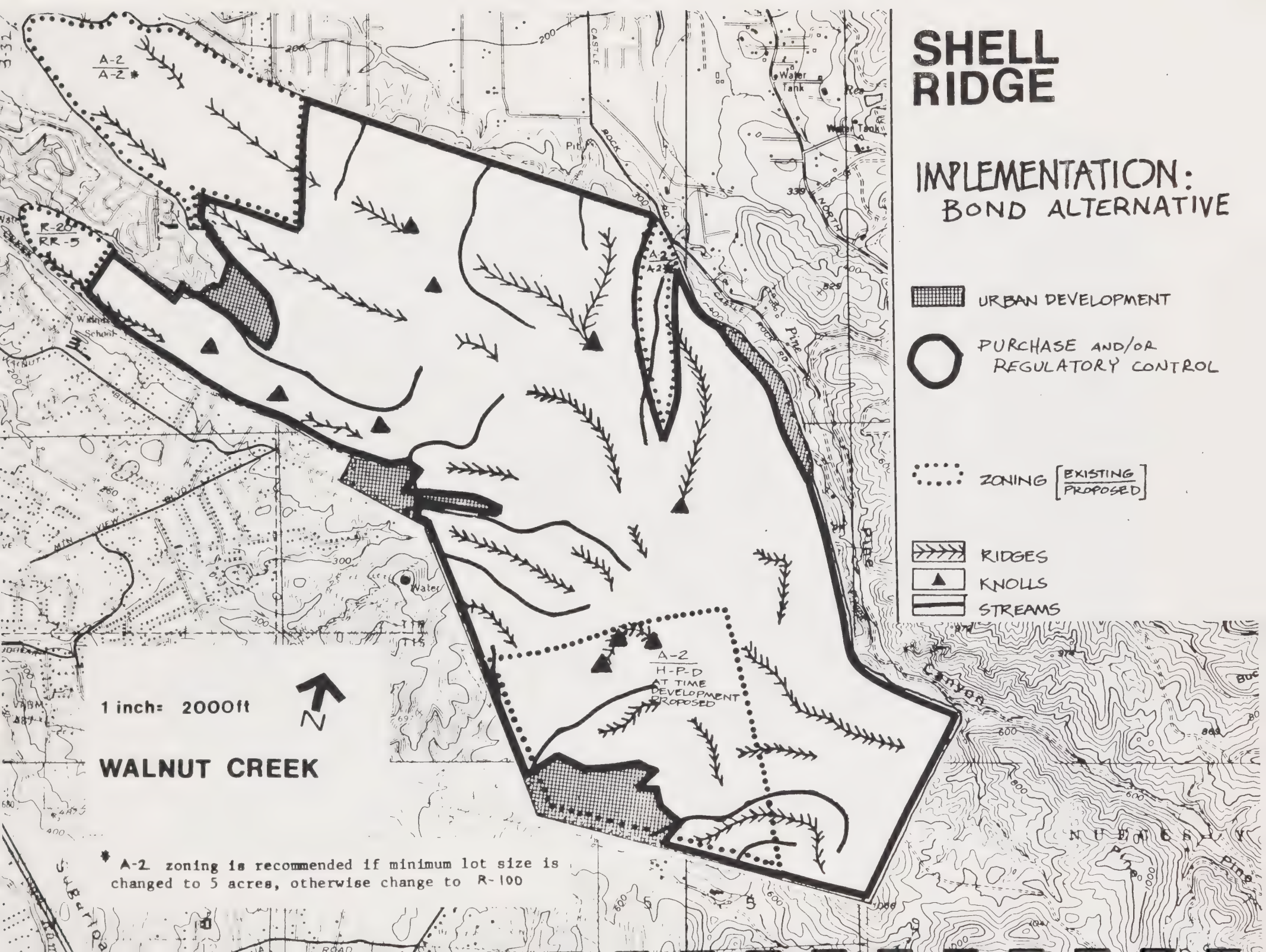
-  URBAN DEVELOPMENT
-  PURCHASE AND/OR
REGULATORY CONTROL
-  ZONING EXISTING
PROPOSED
-  RIDGES
-  KNOLLS
-  STREAMS

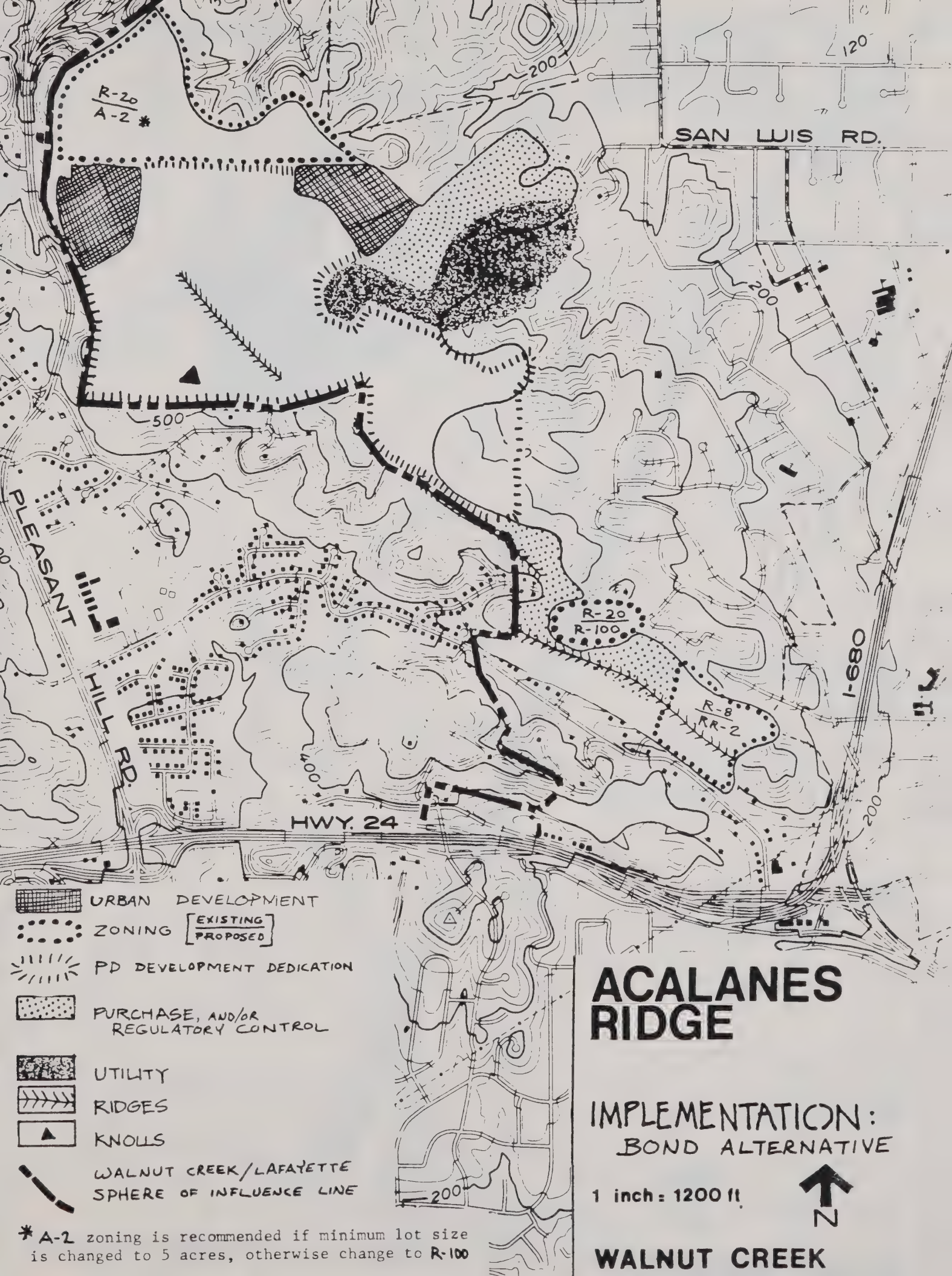
1 inch = 2000ft



WALNUT CREEK

* A-2 zoning is recommended if minimum lot size is changed to 5 acres, otherwise change to R-100





- URBAN DEVELOPMENT
- ZONING [EXISTING PROPOSED]
- PD DEVELOPMENT DEDICATION
- PURCHASE, AND/OR REGULATORY CONTROL
- UTILITY
- RIDGES
- KNOLLS
- WALNUT CREEK/LAFAYETTE SPHERE OF INFLUENCE LINE

ACALANES RIDGE

IMPLEMENTATION:
BOND ALTERNATIVE

1 inch = 1200 ft









WALNUT CREEK

* A-2 zoning is recommended if minimum lot size is changed to 5 acres, otherwise change to R-100

SUGARLOAF HILL

IMPLEMENTATION: BOND ALTERNATIVE

-  URBAN DEVELOPMENT
-  PURCHASE AND/OR REGULATORY CONTROL
-  ZONING EXISTING
PROPOSED
-  RIDGES
-  KNOLLS
-  STREAMS

1 Inch = 600 ft.



WALNUT CREEK

1-680

R-40
R-15

R-20
A-2 *

LIVORNA

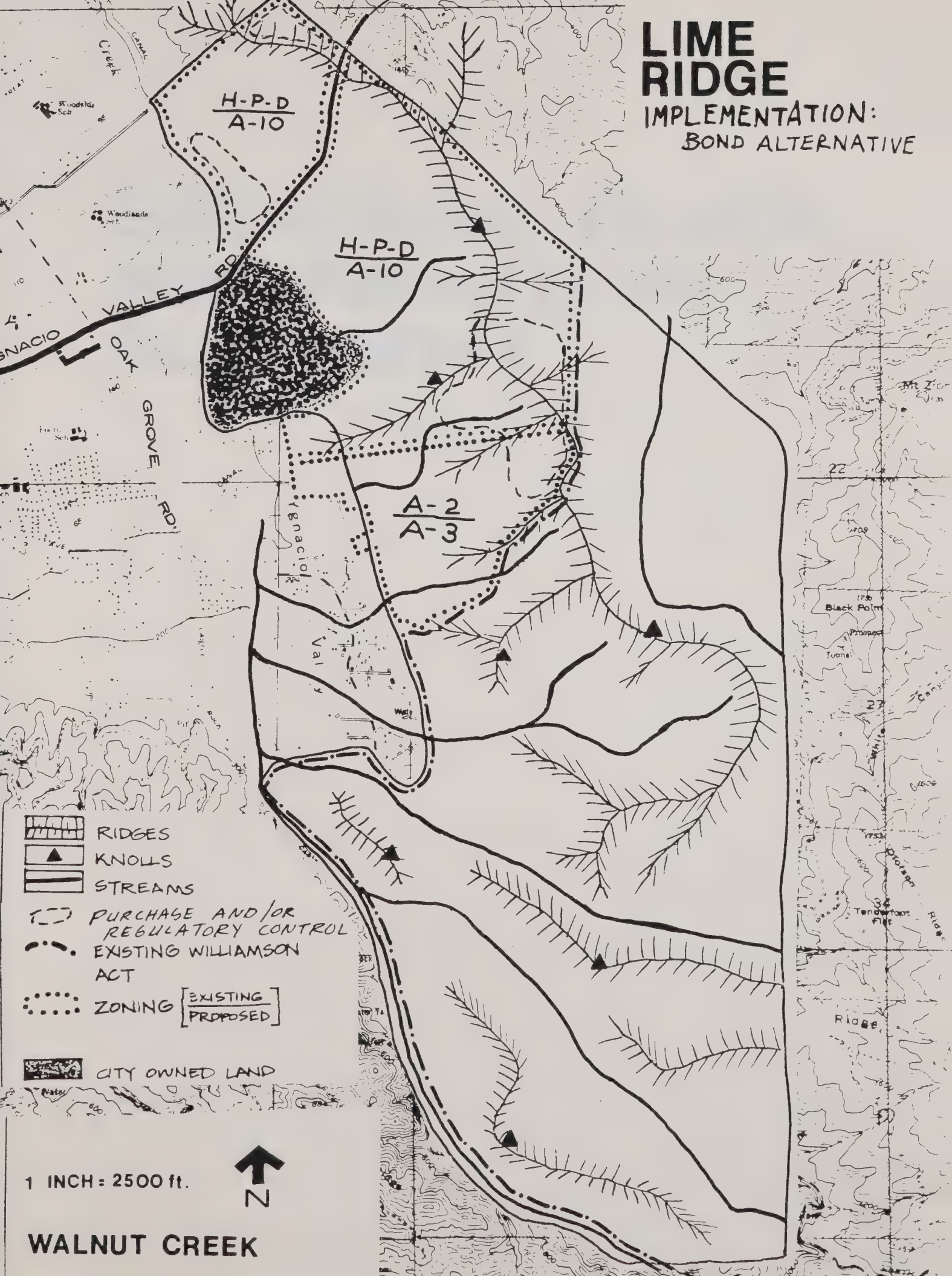
RD.

STEWART
AVE.

* A-2 zoning is recommended if minimum lot size is changed to 5 acres, otherwise change to R-100

LIME RIDGE

IMPLEMENTATION:
BOND ALTERNATIVE



1 INCH = 2500 ft.



WALNUT CREEK

GENERAL PLAN RECREATION ELEMENT

RECREATION ELEMENT*

INTRODUCTION

Walnut Creek, during the last two decades, has become the community transformed from a sleepy, rural California town to a City that is beginning to feel the pains of rapid urban development. The City's once country image has now been changed by the evolution from quiet orchards to the often intense activity found in an active suburb. Almost every piece of relatively flat land has now been committed to an urban use. Because of this shortage of land, Walnut Creek in 1974 is at the critical point where, if additional park sites are ever to be acquired, the City must act immediately. With rising land and labor costs, parks have become a costly community facility to acquire, develop, and maintain.

The City Council finds that park sites and locations used herein to mean "land bank for future park sites" and shall serve as public parks left basically in their natural undeveloped state.

This element outlines existing park problems and discusses future park locations and additions. Most of the proposed park sites considered herein are intended to serve as land banks for future park sites and shall remain basically in their natural and undeveloped state throughout the time span of this plan.

PARK STANDARDS

As a family-oriented suburban community, the demand for park use in Walnut Creek is very great. These demands include both the desire for intensive recreational facilities to serve organized sporting activities and community groups, as well as the desire for open spaces, passive recreational facilities, and freely designed turf play fields. Standards for both active and passive facilities as well as total park acreage have been adopted by the Parks and Recreation Commission. Examination of existing facilities as well as projected needs has shown that it would be impossible to achieve all the requirements of the future (see page 3-13).

It must be realized that standards are intended to serve as general guidelines and have several shortcomings. Nevertheless, it is readily apparent that the Walnut Creek Planning Area is drastically behind its desired goal for parks. A contributing factor to this situation is that 44% of the population within the planning area does not live within the City limits. At this time, the County does not have any park land to serve their residents. The City is thus bearing the park burden of non-City residents. This plan must assume eventual incorporation of the entire Planning Area into the City and, therefore, parks were planned without regard to the existing City limits boundaries.

*The term "Recreation Element" or "Park Element" as used herein shall be construed to be a part of the "Recreation Element" as defined in Government Code §65303(a) (2).

WALNUT CREEK EXISTING PARKS



EXISTING PARK FACILITIES

<u>MAJOR CITY WIDE PARKS:</u>		<u>Acres</u>
Heather Farms Park		75
<u>COMMUNITY PARKS:</u>		
Larkey Park		11
Civic Park		10
Rudgear Park		14
Northgate H.S. (including Brooktree)		13
Las Lomas H.S.		7
Del Valle H.S.		12
Total City Wide & Community Park Acreage		142
<u>NEIGHBORHOOD PARKS:*</u>		
Singer Park		3
San Miguel Park		4
San Miguel School Playfield		2
Foothill School Playfield		7
Walnut Acres School Playfield		1
Castle Rock School Playfield		2
Pine Creek & Greenway		3
Valle Verde School Park (Woodlands)		4
Bancroft School Playfield		3
Larkey School Playfield		2
Buena Vista School Playfield		2
Parkmead School Playfield		4
Tice Valley School Playfield		3
Walnut Heights School Playfield		3
Indian Valley School Playfield		3
Muirwood School Playfield		2
Alamo School Playfield		3
Walnut Creek Elementary & Intermediate Schools		3
Neighborhood Park Sub-Total		54
<u>SPECIAL USE AREAS AND FACILITIES:</u>		
Shadelands		1
Skymont		10
Golf Course (not counted toward park standard)		(160)
Special Use Park Sub-Total		11
Total Neighborhood & Special Use Park Acreage		65

*NOTE: Only 1/2 of the acreage of the recreational facilities at schools are counted toward meeting park standards since they are not usable by the public all the time. The above figures for school parks have already been halved to reflect this standard.

FUTURE NEEDS

New park facilities have been identified by area and are listed by planning area. Locations are shown on the accompanying map.

Downtown Core

Walnut Creek's downtown is rapidly developing into a subregional office and commercial center. The projected demands for further building in the downtown area indicates major changes will occur within the next ten years.

Commercial office and multi-family dwelling units are the predominant land uses in the downtown areas. Office worker's recreational needs can be met partially by requiring future development to provide landscaped plazas which could be used during lunch hours as well as add to the overall attractiveness of the commercial area.

The needs of apartment dwellers are not as easily met. Many of the newer apartment complexes have extensive private recreational facilities which relieve some of the burden from parks. The Park Department should at least provide the larger facilities such as baseball diamonds and large open play fields that are not furnished by either the newer or the older apartment complexes. Further, a demographic analysis of the City reveals that the highest concentration of the elderly, excluding Rossmoor, live in the downtown core. Any future facilities for senior citizens would best be located in this area.

Civic Park, the only existing community park in the core area, is heavily used and covered by buildings on much of the site. In the future, this park should be related to Broadway and Civic Drive more closely to provide an open area next to City Hall. A number of the existing buildings should be removed and that space utilized for open uses.

Las Lomas Area

The Las Lomas Planning Area contains low density, single family homes intermittently mingled with apartment areas, vacant lots, narrow two-lane streets and an occasional horse-grazing pasture. Future development patterns will be significantly altered if the proposed open space is acquired.

Jurisdiction over Las Lomas is currently divided between the City and Contra Costa County. Analysis of the current situation indicates that the area should have almost doubled the existing acreage to meet 1973 needs.

Prior to 1990, an estimated 70 acres would need to be acquired.

In addition to Rudgear Park and other existing facilities, the following is needed in the Las Lomas area:

1. Two neighborhood parks
2. One special-use park
3. An expansion of school-park sites where feasible
4. Expansion of Rudgear Park
5. One public equestrian facility

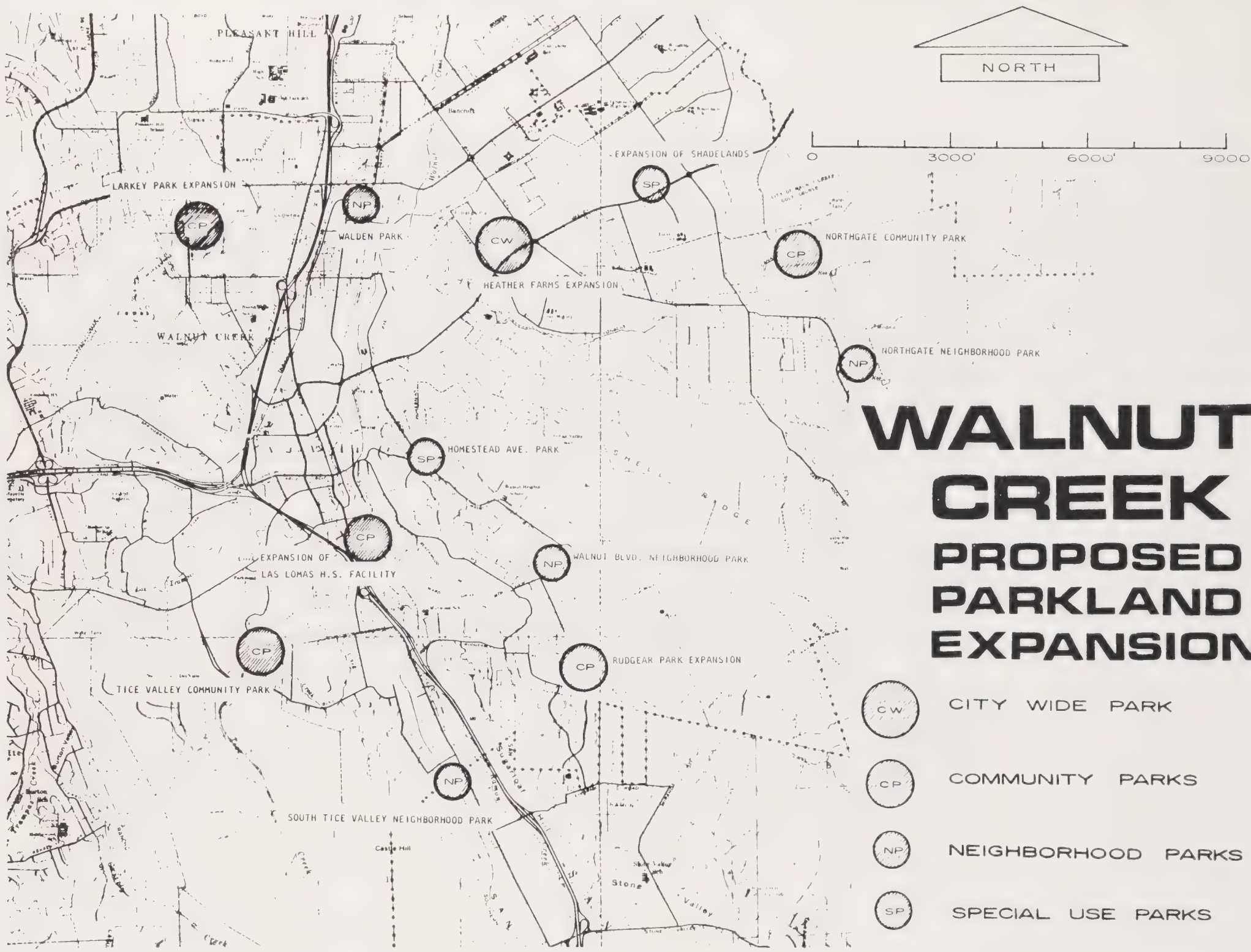
Del Valle Area

Most of the Del Valle planning area is located within the Rossmoor community. This plan assumes that most of the local recreational needs of Rossmoor residents are being fulfilled within its boundaries. However, the Tice Valley and Saranap neighborhoods which span the space between Rossmoor and the freeways have no public park facilities other than school park facilities.





The Saranap neighborhood is an older residential area in Walnut Creek and has no undeveloped land of adequate size for even a small neighborhood park site. The Tice Valley community is typified as a large lot residential zone sprinkled with occasional small scale subdivisions. Several potential sites currently exist for small neighborhood parks. At present a need for a community park does exist since Del Valle High School does not meet the recreational needs of the area. At this time, Rudgear Park and Civic Park are the closest City park sites. In the entire Del Valle planning area, only one good site is available for a community park. Acquisition of this park site, intended for the vicinity of Tice Valley Boulevard and the Rossmoor Parkway, would relieve some of the pressures from Civic Park. Steps should be taken to integrate a community library on this site to better serve the Del Valle area.

A neighborhood park facility is also needed to serve the portion of Del Valle that lies west of the 680 freeway and south of Tice Valley Boulevard. Currently this area does not have even as much as a school site within 1-1/2 miles.

Due to the existence of Las Trampas Creek and the right of way of the now abandoned Sacramento Northern Railroad, a greenway could be developed along Olympic Blvd. from the freeway to Rossmoor. It is recommended that this possibility be investigated and implemented if feasible.



WALNUT CREEK PROPOSED PARKLAND EXPANSION

-  CITY WIDE PARK
-  COMMUNITY PARKS
-  NEIGHBORHOOD PARKS
-  SPECIAL USE PARKS

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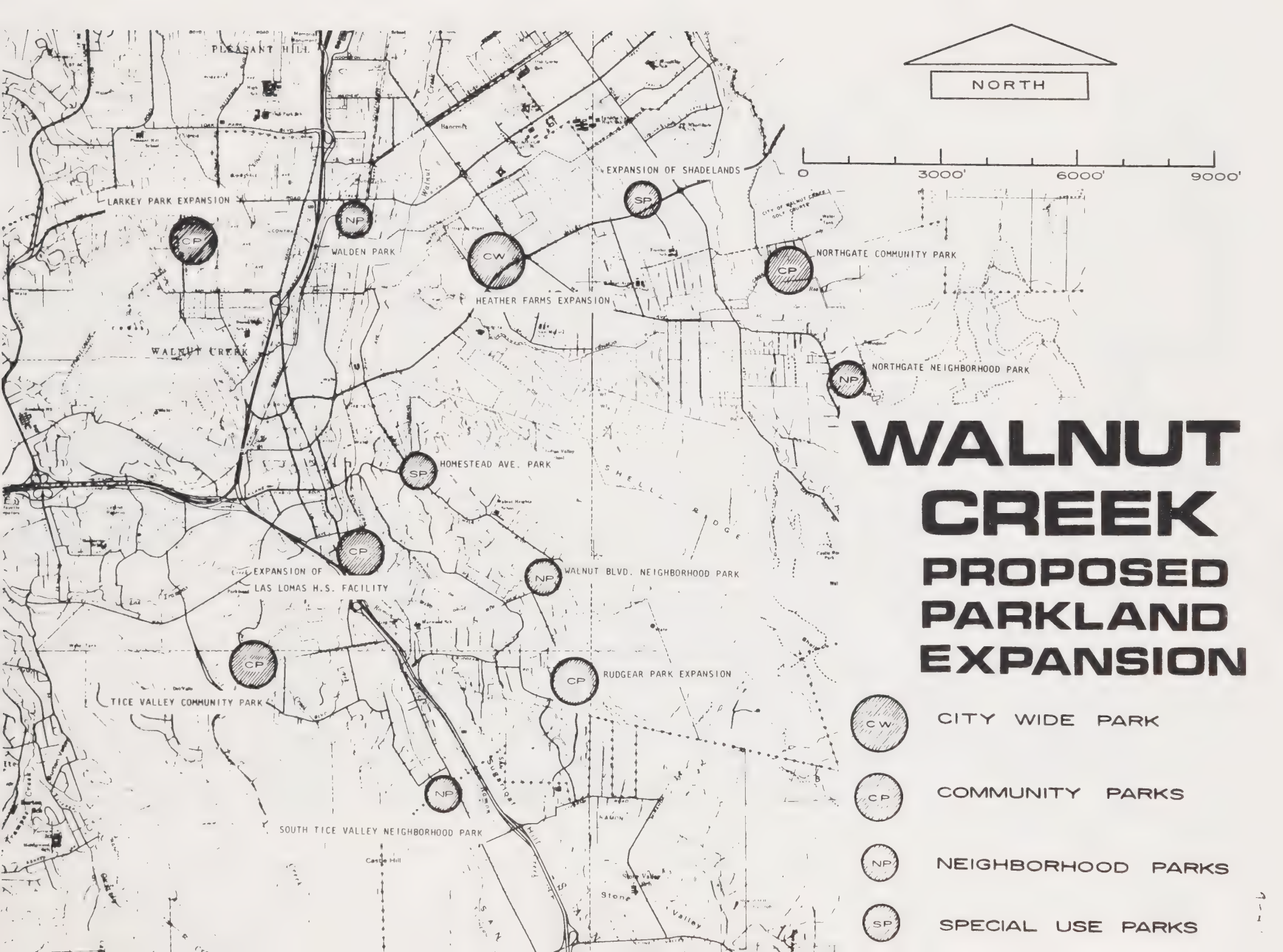
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Due to the existence of Las Trampas Creek and the right of way of the now abandoned Sacramento Northern Railroad, a greenway could be developed along Olympic Blvd. from the freeway to Rossmoor. It is recommended that this possibility be investigated and implemented if feasible.



NORTH

0 3000' 6000' 9000'

WALNUT CREEK PROPOSED PARKLAND EXPANSION



CITY WIDE PARK



COMMUNITY PARKS



NEIGHBORHOOD PARKS



SPECIAL USE PARKS

Acalanes Area

The Acalanes planning area, most of which lies northeast of Acalanes Ridge, is primarily a residential district with a combination of old and new dwelling units including townhouses, single family homes and apartment.

The Acalanes community is the only area of Walnut Creek that currently has park facilities that approximate the needs of the surrounding neighborhoods. The two elementary schools and the intermediate school provide an even distribution of neighborhood park facilities. Larkey Park, which now provides most of the more active recreational needs, will be in need of expansion during the next few years. It is recommended that the entire block be eventually acquired for park purposes. An additional park located in a corner of the Skymont development in a somewhat natural setting, provides for more passive recreational activities.

North Ygnacio Valley

The North Ygnacio Valley population is divided among those who live in single family homes and those who live in higher density condominium and apartment projects. Some recreational needs of the area are met by recreational facilities provided through private swim clubs or apartment complexes. Additional recreation is available at the numerous school sites or Heather Farms Park. However, most of the existing parks are in need of expansion. Heather Farms Park, covering approximately 75 acres, is virtually hidden from public view. Expansion of the park is needed to provide visual access. Heather Farms is a potential center of community activity and civic pride and additional land is needed along Ygnacio Valley Road. This additional land would also provide visual relief from a major transportation corridor. Additional physical improvements are planned to cover the existing Heather Farms site and because of this fact a 17-acre expansion is recommended to prevent the park from becoming totally developed to the point of no longer resembling the traditional concept of a park.

Some school park facilities, such as those at the Walnut Creek Elementary School and Bancroft School sites, are in need of expansion to better serve not only the school but the community as well. Expansion of the land surrounding Shadelands Museum is also recommended.

In addition to expansion of Shadelands, Heather Farms and school park sites, an additional neighborhood park site is recommended to serve the rapidly developing multi-family area in the vicinity just south of the Pleasant Hill BART Station where no school or park sites are within 1-1/2 miles.

South Ygnacio Valley Area

Land usage in the south Ygnacio area is predominantly single family homes. The area has been transformed from orchards to subdivisions over a relatively short period of about ten years. Development is now creeping up to the base of Shell Ridge and Lime Ridge, and at this time is being restrained only by the temporary lack of water services to the hillside lands. Depending upon the success of the open space plan, this area will either curtail its growth or begin the development of hillsides.

At this time, demands for intensely developed recreational activities in this family oriented district are heavy. School parks, Heather Farms Park, and the smaller neighborhood park sites absorb some of those needs. The plan recommends a new community park be developed in the North Gate vicinity to accommodate future growth in that area and relieve some of the use from Heather Farms. It is anticipated that the community park would be located south of the golf course and ultimately cover about 25 acres.

An additional neighborhood park site is also proposed in the North Gate vicinity. It is anticipated that this site would develop only if:

1. East Bay Regional Park District does not develop some sort of recreational facilities in the Castle Rock area, and
2. The open space plan as described in this package is not successfully implemented.

North Gate Planning Area

The North Gate Planning Area covers much of Lime Ridge and the more remote sections of Shell Ridge. Plans for this area are to permanently preserve its use for open space, recreation or agricultural purposes. If this in fact does not become the situation and development does occur, park facilities should then be planned.

Summary

Below is a summary of recommended new park areas. Funding is discussed below in the Park Element Action Section.

Recommended New Park Areas

<u>CITY WIDE</u>	<u>Acres</u>
Expansion of Heather Farms	17
<u>COMMUNITY PARKS</u>	
Expansion of Larkey Park	7
Expansion of Rudgear Park	2
North Gate Community Park	26
Tice Valley Community Park	15
Expansion of Las Lomas H.S. Facility	3
	70
<u>NEIGHBORHOOD PARKS</u>	
Walden Park	7
South Tice Valley Neighborhood Park	7
Walnut Blvd. Neighborhood Park	7
North Gate Neighborhood Park	10
Expansion of Miscellaneous School Parks	20
	51
<u>SPECIAL USE AREAS AND FACILITIES:</u>	
Homestead Ave. Park	7
Expansion of Shadelands	2
	9
TOTAL	130

PARK ACTION PROGRAM

To best implement park recommendations, the following steps should be taken:

1. Use the Bond Election program to designate the expenditure of monies for the preservation of park sites. Park sites are found to include "land bank for future park sites" and shall serve as public parks. It is not intended that "land bank for future park sites" be converted into developed park land in the near future. The bond program should include monies for the following "land bank for future park sites":

- a. Expansion of Heather Farms Park
- b. Initial acquisition of North Gate Community Park
- c. Initial acquisition of the Tice Valley Community Park
- d. Expansion of Larkey Park
- e. Expansion of Rudgear Park
- f. Acquisition of the Homestead Special Use Park

Based upon initial estimates, the cost for the above sites will be approximately \$1.1 million.

- 2. Use the open space specialist to promote donations of park land to the City.
- 3. Use "specific plans" to regulate the use and design of unimproved parcels surrounding proposed parks.
- 4. Utilize the vehicle of a County Service Area to spread the cost of financing, developing, and maintaining parks over the entire planning area population.
- 5. Adopt a policy limiting facility development within parks so that the majority of lands utilized for parks are in open uses, rather than buildings.
- 6. Support the State Beach, Park, Recreational and Historical Facilities Bond Act of 1974.
- 7. Work with the County to obtain Walnut Creek's fair share of the Park Land Dedication Funds and use the monies to acquire new park lands - where necessary.
- 8. Broaden the intent of the park land dedication philosophy and require funds from nonsubdivision construction such as commercial and office uses as well as nonsubdivision residential construction.
- 9. Take advantage of the State Land and Water Conservation Act Funds to match land acquisition monies obtainable through the City's Capital Improvement Program.

The following parks, or portions of parks, are recommended for inclusion in a bond.

SITE	CURRENT SIZE	ULTIMATE SIZE	ACREAGE INCLUDED IN BOND	ESTIMATED COST
Heather Farms	75	92	12	480,000
Larkey Park	11	18	3	116,500
Rudgear Park	13	15	2	31,500
North Gate Community Park	0	26	15	225,000
Tice Valley Community Park	0	15	12	250,000
Homestead Ave. Sp. Use Park	0	7	7	120,000
Totals			51	\$1,223,000

Parks to be acquired by a combination of Park Land Dedication Funds and the Capital Improvement funding include:

SITE	ACREAGE	APPROXIMATE COST
Expansion of Las Lomas	3	78,000
Walden Park	7	120,000
South Tice Valley N.P.	7	210,000
Walnut Blvd. N.P.	7	110,000
North Gate N.P.	10	120,000
Expansion of Misc. school parks	approx. 20 acres	(undetermined)
Heather Farms	5	200,000
Larkey Park	4	(undetermined)
North Gate Community Park	11	150,000
Tice Valley Community Park	3	63,000
Totals	77	\$1,051,000

These cost estimates were developed by City staff and were based upon a combination of factors including the 1973-74 assessed valuations and comparable land sales.

At this time, these figures are estimates. Professional appraisals of the major parcels are needed prior to a bond election. No factor was included to account for appreciation of land values between the time this plan was prepared and the estimated time of acquisition.

TRAILS ELEMENT*

INTRODUCTION

Trails have been in use by man far before mechanized means of transport were invented. Early ranches in Contra Costa County relied on trails for access to other regions. These trails have gradually succumbed to large roads and freeways, and the original use and concept has substantially changed amid urban and suburban areas.

Trails, especially where intended for use by hikers, bicyclists and equestrians, serve as "recreation corridors" and are intended to provide non-motorized access between neighborhoods, open space, park areas, shopping areas, and community facilities, rather than sole reliance on the automobile. Within open space lands, trails are planned to take advantage of scenic lands and vistas.

This plan is composed of two distinct sub-elements: hiking-riding trails and bike trails. Many overlaps do exist between the routes planned for each type of use, however, requirements for each do vary. In general, hiking and riding trails through open areas are compatible, yet due to steepness of terrain and lack of paving, bicycling is not feasible. Obviously, on-street bike routes are not intended for pedestrian or equestrian use. Many of the routes shown on the plan map are designated as regional trails, either by the East Bay Park District or Contra Costa County. Many local trails serve as feeders to this system.

Hiking and Riding Trails

Walnut Creek and its neighboring cities are some of the most desired communities for horse riders and outdoor enthusiasts. The number of pleasure horses in Contra Costa County is one of the largest of any county in the State of California. Numerous horsemen's associations exist, many of which sponsor horse shows, parades, and competitions of all kinds. As a result of rapid growth in the Walnut Creek area, the amount of open land for horse riding, hiking, and grazing has decreased. The semi-rural neighborhoods of Walnut Creek that house much of the horse population have been split into several isolated pockets. Access is needed by equestrians to the open areas as well as between equestrian oriented neighborhoods and facilities. Walnut Creek has much to gain from retaining some of its rural character.

It is important that trails through open space are designed. Not all open space will be open to the public, and not all public open space should be used by riders and hikers. Where trails follow along roadways, it is important that safety for the rider, hiker, and motorist be carefully defined, designed, and enforced.

The riding trails described in this document have been planned by the Citizens' Open Space Action Committee and City staff. Initial plans were prepared from a previous report prepared by Mary Grace Davidson for the Walnut Creek Parks and Recreation Department. Plans were reviewed by several members of various equestrian organizations, and reflect the regional equestrian trails as planned by the East Bay Regional Park District and Contra Costa County trails.

*NOTE: The term "Trails Element" as used herein shall be construed to be a part of the "Recreation Element" as defined in Government Code §65303(a)(6).

TRAILS ELEMENT

A. Trail Requirements

Generally, the trail needs of hikers and equestrians are similar, enabling them to share paths. In open areas trails will generally follow existing dirt, fire, or service roads and few improvements are needed. Horses tend to make their own trails and maintain them through constant use.

Usually a dirt base is sufficient, although gravel is preferred along trails adjacent to neighborhoods. Slopes should vary and in no case exceed 20 percent. Trails can be as narrow as two feet but sufficient width for two passing horses is preferable. Air clearance above trails should be a minimum ten feet to a width of eight feet. Trail surfaces should be clear of roots, and other obstacles, but should be disturbed as little as possible to prevent erosion. All materials used in the construction of guard rails, gates, bridges, rest places, etc. are to be made of native materials and rustic construction in order to enhance the safety, permanency, and natural appearance of the trails.

Equestrian groups will have to assume some of the responsibility for patrolling and maintaining trails along with the City of Walnut Creek. Regional trails will be maintained and policed by the East Bay Regional Park District. The following figures illustrate brief examples of trail construction requirements and standards:

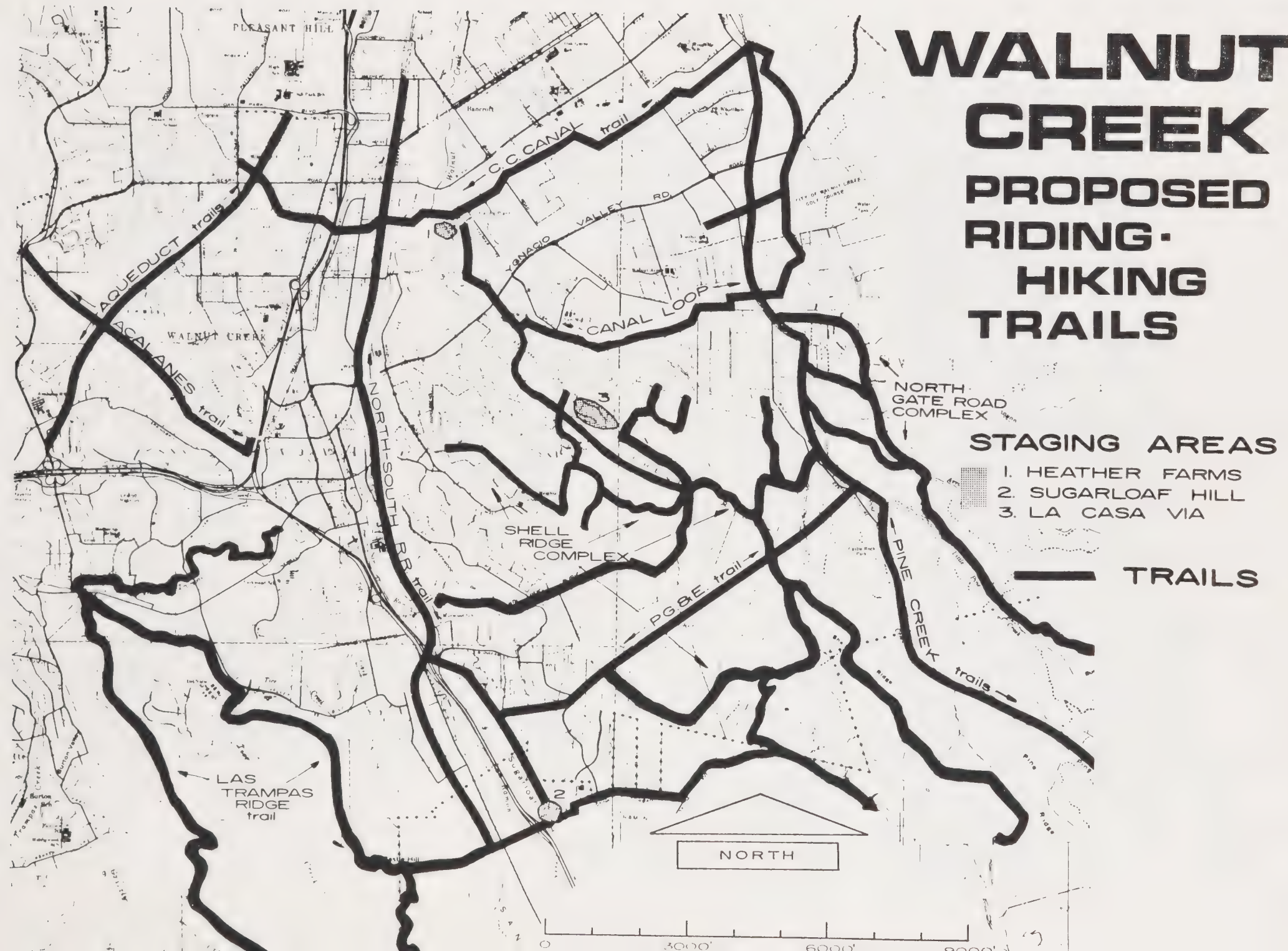
B. Future Needs

Local trails are needed in Walnut Creek to (1) connect with regional trails, (2) connect with proposed open space, (3) provide access from low-density, semi-rural neighborhoods, and (4) provide access to and from public equestrian facilities.

Ten major trails have been proposed in the Walnut Creek Planning Area:

1. North-South Railroad Trail. This trail is designated on East Bay Regional Park District's master plan as a portion of the regional trails system. It will eventually connect Walnut Creek with several cities to the north and south. Within the City, it also connects the Contra Costa Canal, Sugarloaf Hills and Livorna Road Trails, all of which link major open areas throughout central Contra Costa County. Portions of the trail are currently in use although there are a few problem areas at major street intersections.
2. Aqueduct Trails. The Aqueduct right-of-way runs through northwest Walnut Creek from Pleasant Hill to the 680 Freeway. It is presently being used in Pleasant Hill by both hikers and equestrians and should continue through Walnut Creek. This trail would take advantage of scenic visitors atop Acalanes Ridge, as well as connect to the Acalanes Ridge Trail linking with Briones Regional Park.
3. P.G.&E. Trail. The PG&E trail follows power line easements from the Sugarloaf Hills trail to Rudgear Community Park and through the Shell Ridge complex to Mt. Diablo and Lime Ridge. The primary use of the trail is intended to provide access to the open areas. Power lines do not follow natural contours, thus use of the trail in open areas is of marginal value. However, use of the PG&E easement through urban areas to obtain access to the open space area is critical to the success of the entire trail system.

WALNUT CREEK PROPOSED RIDING- HIKING TRAILS

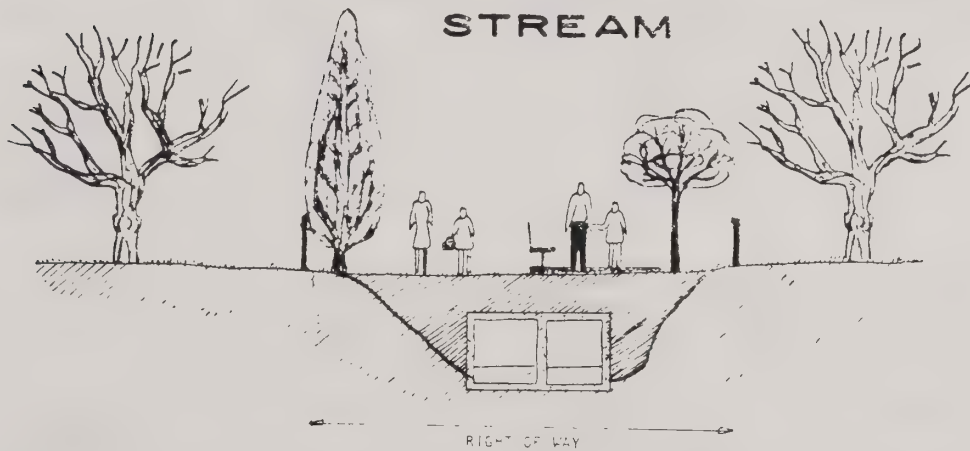


WALNUT CREEK FLOOD CONTROL TRAILS

CREEKBED



ENCLOSED
STREAM



FLOOD CONTROL CHANNEL



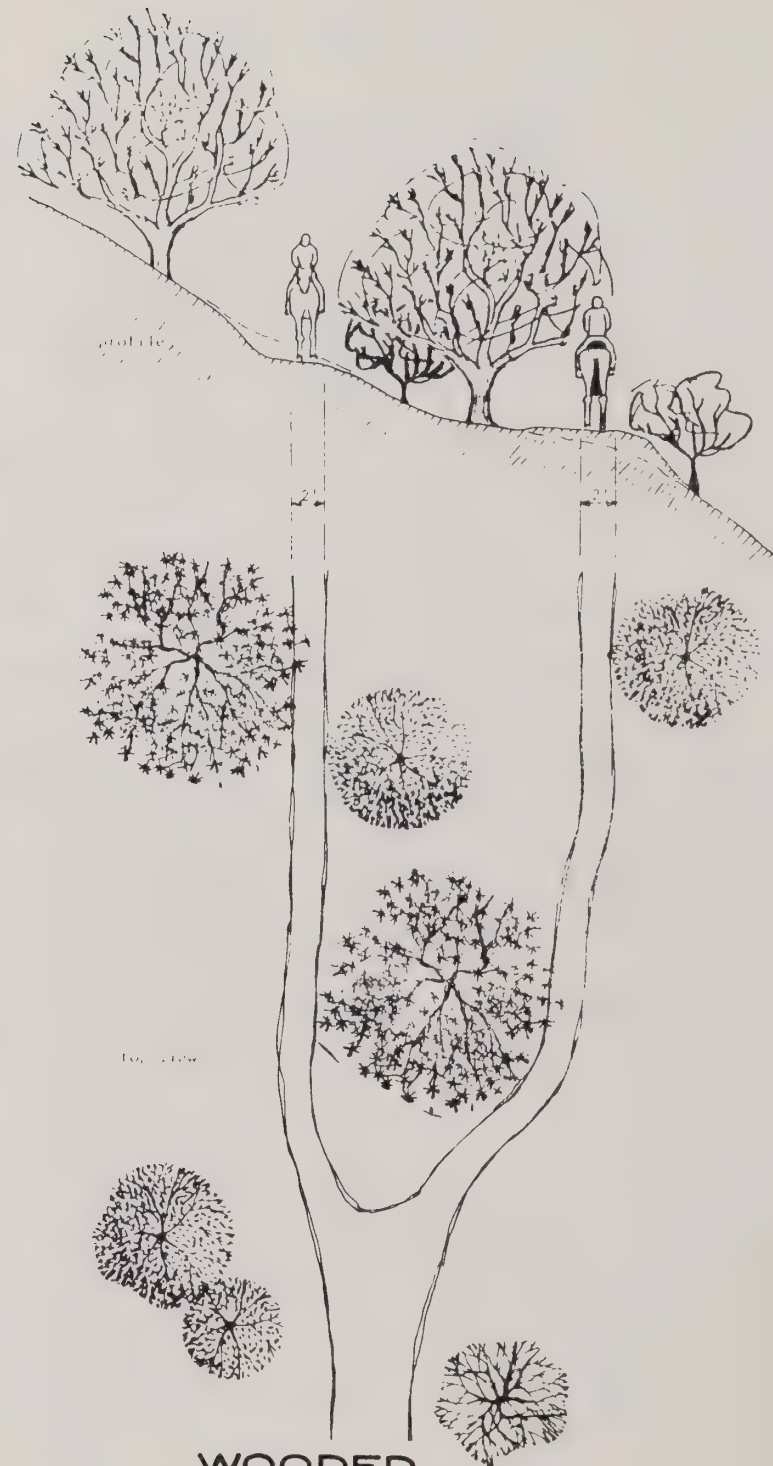
4. Contra Costa Canal Trail. The Contra Costa Canal Trail is critical since it is one of the few links between the major open space areas and allows passage from Lime Ridge to neighboring city's trail systems. In addition, access to the Heather Farms Equestrian Arena is easily obtained from this trail. This trail is also designated on the East Bay Regional Park District plan and will be maintained and policed by both the East Bay Park District and the Contra Costa County Water District.
5. Canal Loop Trail. Use of the Canal Loop Trail will provide access from the Heather Farms Equestrian Arena to the Shell Ridge complex and the North Gate Road complex. Only limited portions of the canal are in use at this time. It is recommended that similar policing and maintenance arrangements be made with those currently in use along the main canal trail. The use of the service road alongside the canal is of utmost importance and also designated on the bikeways plan.
6. Shell Ridge Complex. The Shell Ridge Complex is made up of a number of trails intended for intensive use by both hikers and equestrians. Shell Ridge is an area of environmental value and affords several scenic vistas of both urban and natural settings. The complex would connect southern Ygnacio Valley to the South Walnut Creek area. Shell Ridge lies in the center of Walnut Creek and has three school sites adjacent to the trails. It is anticipated that this complex would become the center of hiking and riding activities in Walnut Creek.
7. Pine Creek Trails. Portions of Pine Creek still remain in its natural state. A continuous easement alongside the creek would insure access from both Walnut Creek and Concord to the Shell Ridge, Lime Ridge, and Mt. Diablo areas. Shade trees surround most of the creek and make it usable even during the hot summer months.
8. Acalanes Ridge Trail. The Acalanes Ridge Trail is intended to link Briones Regional Park to northwestern Walnut Creek. The ridge line is well suited for both equestrian and pedestrian traffic due to a variety of slopes, vistas, and natural features. A local nature-oriented park facility is planned on an offshoot of the ridge trail.
9. Las Trampas Ridge Trail. The major portion of Las Trampas Ridge Trail encompasses land owned by Rossmoor. The trail is currently used with permission of Rossmoor and links with the Lafayette Trail system, as well as the proposed County trails to the south of Walnut Creek. Implementation of this trail would help discourage use of narrow streets in the Olympic Blvd. and Tice Valley areas.
10. North Gate Road Complex. The North Gate Road Trail Complex consists of a main trail along North Gate Road leading to Mt. Diablo and two feeder trails leading from Pine Creek and the Castle Rock areas to North Gate Road. Portions of the trail are currently in use and serve the large horse riding population in the immediately surrounding areas.

WALNUT CREEK HORSE TRAIL STANDARDS



top view

LEVEL
GROUND
HORSE TRAIL



WOODED
HILLSIDE
HORSE TRAIL

Staging areas are locations where at least minimal facilities are needed as starting points for individual or organized hiking or riding activities. The sites would include some parking facilities, restrooms, water for both humans and horses, and possibly picnic tables. The staging area concept is somewhat similar to roadside rest stops. The location of these areas depends greatly upon the success of implementing the trails plan. Initially, three sites are suggested for use as staging areas:

1. Heather Farms Park Arena. The arena is currently the center of the equestrian activity in Walnut Creek and has parking facilities and water supplies. It is located adjacent to two main trails which would provide access to open areas throughout central Contra Costa County.
2. Sugarloaf Hills. The southernmost portion of Sugarloaf Hills has numerous possibilities as a staging area. The surrounding home sites are of a rural character and would blend in with the use proposed. Since these sites have easy access to Interstate 680, traffic to adjacent neighborhoods would be minimal.
3. La Casa Via. The southernmost portion of La Casa Via, located on the periphery of proposed open space lands, would provide an ideal natural setting for a staging area. Use of this site would not require access by feeder trails through urban areas to open spaces. Due to the current low density equestrian oriented homesites adjacent to the proposed facility, a low-intensity use of this sort would blend with the surroundings.

BIKEWAYS

The use of bicycles in Walnut Creek has now become an acceptable form of recreation and transportation. It is anticipated that the upsurge in bicycle sales over the last four years is not a temporary trend and will continue for many more years.

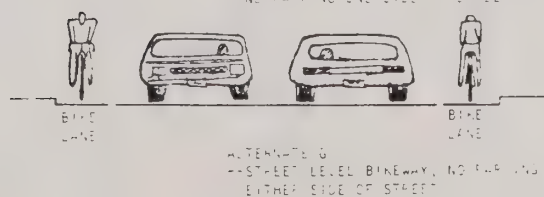
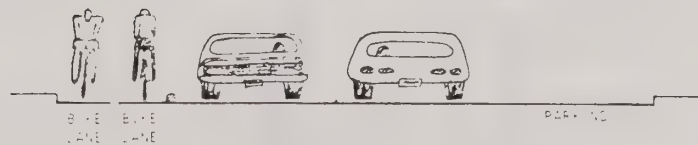
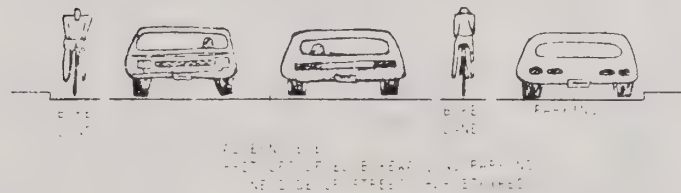
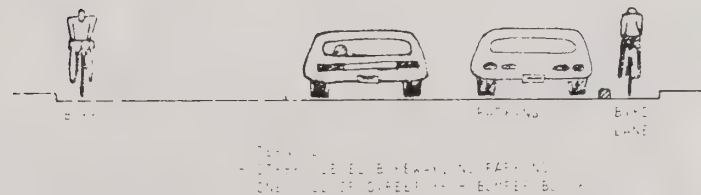
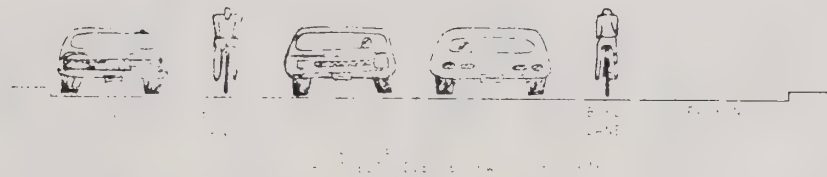
As the use of autos becomes increasingly economically and ecologically unsound, the need for alternative modes of transport becomes vital to intracity travel. Use of the bicycle has several benefits to both the individual rider and the region as a whole. Health officials have constantly decried the sedentary life style of Americans and conveniently located bike paths may help reverse the debilitating trends toward inactivity. Bicyclists also become much more aware of some of the small pleasures in life, such as the beauty found in landscaped areas.

With the advent of BARTD, residents should be given alternatives to the use of autos for access to the stations. Use of bikes might ease congested streets, help alleviate air pollution, and the consumption of natural resources.

At present, bike traffic on sidewalks is illegal, except to those under the age of 16, and hazardous along many of Walnut Creek's substandard roads. The increase in bike use has paralleled an equal increase in bicycle accidents. Safe access is especially needed from residential areas to school and recreational facilities.

WALNUT CREEK

BIKEWAY DESIGN ALTERNATIVES



Bikeways in Walnut Creek

In 1971, an initial bikeways committee was formed consisting of City staff members from the planning, engineering, public safety, and park departments. The committee was reconstituted in January 1972 to include representatives of the community from bicycle groups, local high schools, and others. This committee worked to prepare an initial bike plan, which constitutes the map and descriptive part of the text. The combination citizen-staff group has been recently divided into subcommittee's for the purpose of continual review of legislation, sources of revenue, education and enforcement problems, and to do further detailed study on priorities, standards, and costs.

Bikeways planning is a relatively new field and Walnut Creek has had to follow the lead of a few cities such as Davis, Palo Alto, Berkeley, and Santa Rosa in the preparation of its plans. Walnut Creek has many unique circumstances that hamper the actual implementation of its bike systems. Foremost among the problems is the City's boundaries. Effective bike paths require a continuous system that will be unobtainable without cooperation and financial support from the county. Walnut Creek's traffic problems, topography, and needs also differ from those of other cities with effective bike systems. Below are some standards for bikeways.

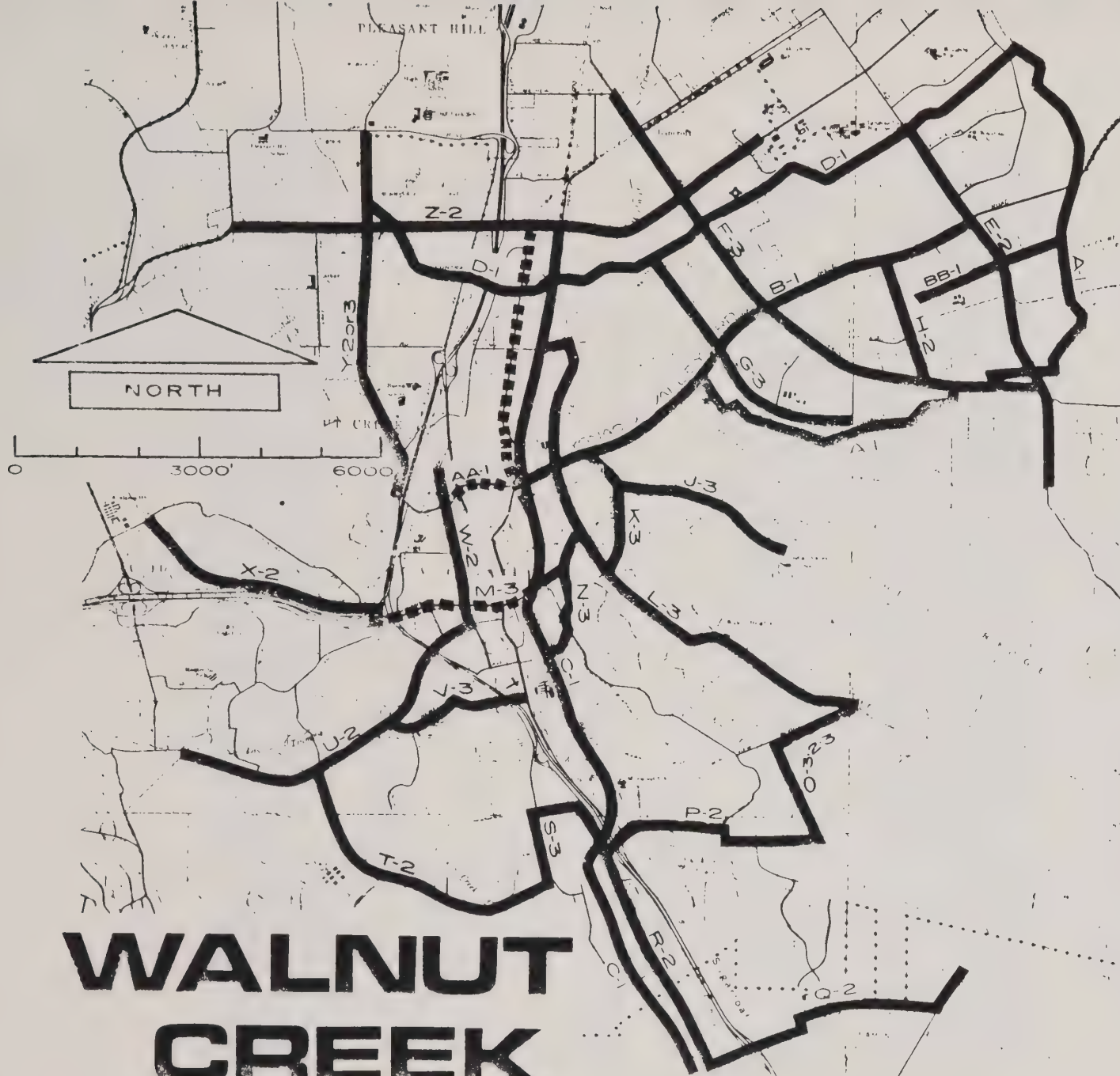
Future Needs

Several forms of bike trails have been proposed for the Walnut Creek system. Some of these trails are design solutions which involve improvement of existing roadbeds and sidewalks. Others make use of utility right-of-ways or are installed as a part of a subdivision construction project. Generally, bike trails can be divided between on-street and off-street facilities.

When bicyclists use on-street paths they are competing for space with automobiles. Most designs for on-street routes establish specific separations between bicyclists and motorists. The simplest designation of bike routes involves signing and striping and are the least expensive methods of implementing a bike route. More complex on-street designs involve construction of curbs or bumper blocks between parking spaces or moving traffic and bikeways.

Off-street bike routes can be located parallel to traffic corridors or be completely separated from auto and pedestrian routes. State law prohibits use of sidewalks for bicycle traffic except by persons under 16. In some cases, bike lanes can be accommodated alongside pedestrian ways. The meandering sidewalk along Ygnacio Valley Road is intended for use by both cyclists and walkers. Walnut Creek and particularly the Ygnacio Valley is fortunate to have several miles of canals, portions of which can be used for nonmotorized transportation. Walnut Creek is also fortunate to have a railroad right-of-way that could provide a continuous trail from Pleasant Hill through Walnut Creek to Alamo.

The following map identifies trails planned by the bikeways committee. It shows the location as well as the type of trail intended.



WALNUT CREEK PROPOSED BIKEWAYS

— ROUTE
 POSSIBLE
 ROUTE

ROUTE NO. & LABEL

- PROPOSED BIKE TRAIL ROUTES**
- A-1 Ygnacio Canal Loop from Contra Costa Canal past San Miguel Park to Ygnacio Valley Road.
 - B-1 Ygnacio Valley Road (Oak Grove Road to Civic Dr.).
 - C-1 S. P. Railroad right-of-way through W.C. Planning Area (Alternate: Civic Dr. & Oak Rd. from YVR to P.H. BART Station).
 - D-1 Contra Costa Canal throughout W. C. Planning Area.
 - E-2 Oak Grove Rd. and Castle Rock Rd. from Planning Area boundary southward to Pine Creek Rd. intersection by the new High School.
 - F-1 Bancroft-Walnut Ave. from Oak Grove Rd. to Mayhew.
 - G-1 N. San Carlos (Shoppard Rd.) from Las Lomas Way to Wiget from Walnut Ave. to Ygnacio Valley Road.
 - H-3 Marshall from Homestead to Indian Valley School.
 - I-3 Homestead from YVR to Walker Avenue
 - J-3 Walnut Blvd. from Seven Hills Ranch Rd. to Bales Drive.
 - M-3 Walker Ave. and Mt. Diablo Blvd. from Walnut Blvd. to Boulevard Way
 - N-3 Sierra, San Miguel, Ellsworth Place and Newell from Walnut Blvd. to S.P. Railroad right-of-way to Las Lomas High School.
 - O-3-2-3 Bales, Mountain View and Palmer from Walnut Blvd., then east to Palmer.
 - P-2 Fudge Rd. from Old Danville Rd. to Palmer Rd.
 - Q-2 Liverna Rd. (when developed) from Old Danville Rd. eastward.
 - R-2 Danville Rd. from Castle Hill Rd. south to edge of Planning Area.
 - S-3 Castle Hill and Meadow from Tice Valley to So. Main.
 - T-2 Lafayette City Limits eastward on Olympic Blvd. to California.
 - U-3 Newell & Lilac from Olympic Blvd. to Meadow Lane.
 - V-2 California Blvd. north from Olympic to Pringle Ave.
 - X-2 Camino Diablo from Mt. Diablo westward to Stanley Blvd. at Acalanes High School.
 - Y-3 Buena Vista north from YVR crossing Geary Rd., continuing on Putnam to Oak Park Blvd.
 - Z-3 Geary from Camino Verde eastward to Freeway, continuing on I-680 to Concord City Limits
 - AA-1 Future off-street route connecting BART station to YVR at Civic Dr. (to be resolved)
 - BB-1 Future P.H. from Contra Costa Canal Loop to Via Monte access to foot of Hill School

TRAILS ACTION PROGRAM:

Hiking and Riding Trails

Local trails can be obtained in the following ways:

1. Utilization of utility rights-of-way through agreements with utility companies.
2. Easement agreements with property owners.
3. Dedication as part of new developments.
4. Purchase.

Virtually all trail arteries within major open space land will be acquired either with the passage of an open space bond or through development of properties. Several of the trails intended for use by equestrians can be acquired by use of easements from sympathetic property owners. Given the successful implementation of the utility trails and use of the above means, only a few portions of the trail system will actually have to be purchased. It is estimated that this will cost approximately \$29,000.

Probably the major costs of trails will be for improvements such as signing, special entry gates, and occasional construction of trail beds. However, these items are not included in a bond and can be incorporated into a long-term capital improvement program and may possibly be obtained through means other than direct outlays.

Bikeway Action Program

The vast majority of Walnut Creek's bikeways could be implemented with only minimal direct costs to the public if:

1. All new developments were required to implement their portion of the system.
2. As streets were improved, bikeways were included in the street designs.
3. Utility rights-of-way are fully used.

Major costs of bikeways are not for acquisition of lands or rights-of-way, but go for the signing, striping and curb improvements required. Funds for these improvements can be provided from the City's capital improvement program and recently enacted state laws which divert a portion of gas tax funds to local municipalities for the purpose of developing bikeways.

**GENERAL PLAN
SEISMIC SAFETY
ELEMENT**

INTRODUCTION

The California Division of Mines and Geology* estimates that earthquake related damage may total approximately 31 billion dollars in California for the period 1970-2000 without some improvement of existing development policies and governmental priorities.

An aggressive program aimed at reducing these losses could reduce by approximately 90% the number of lives lost and could save an estimated 19.5 billion dollars.* With this in mind, the State of California in 1972 and 1973 adopted two significant pieces of legislation. First, all local governments are required to prepare a Seismic Safety Element** "consisting of an identification and appraisal of seismic hazards." Second, they are required to implement a program*** for reducing local damage caused by fault movement along various designated faults in California. This document is intended to meet both of these state requirements.

The two basic methods of dealing with seismic problems are:

1. Prevention of an emergency through incorporating geologic information into land-use planning, through regulating development, and through regulating construction; and
2. Planning for an emergency through disaster preparedness.

The second method is a short-term answer only and is discussed in the Safety Element.

The diversity of topography, soil conditions, and fault zones in Walnut Creek and the surrounding region has contributed to the presence of numerous geologic hazards in the community. The City and its environs have a variety of hazards most of which vary in their level of danger and risk to the community. These geologic conditions include land sliding, fault displacement, groundshaking and liquefaction. The location of these hazards vary and no place in Walnut Creek can assume to be totally free of geologic risks.

*California Division of Mines and Geology, 1973, page 4.

**Section 65302(f) of the State Government Code.

***Alquist-Priolo Geologic Hazards Zones Act.

I. GEOLOGIC HAZARDS INVESTIGATION

Summary of Geologic Hazards Findings

A large earthquake located on a fault anywhere in the San Francisco Bay Area could cause one or more of the following within the Walnut Creek planning area: extensive ground shaking, landsliding, liquefaction, settlement, and differential subsidence.* If the earthquake originates within the Walnut Creek area, fault displacement will also occur. The relative risk of each of these hazards occurring is not equal in the entire area. Maps included in this report show areas of varying risk for each of the earthquake effects which could happen. The accompanying text interprets these maps and explains how the information was obtained.

Fault movement, the horizontal or vertical movement of land on each side of a fault, can occur along the active Concord Fault or along an associated branch of this fault on the eastern side of Ygnacio Valley. Fault movement is also possible along any of the many faults within the potentially active Calaveras Fault System which lies west of Freeway 680.

Groundshaking, the result of an underground earth movement or earthquake, is a potential hazard throughout the planning area. The severity of this shaking will depend on the size and location of the earthquake; the height, design, and type of structure; and the local soil conditions.

Groundshaking can trigger several types of soil collapse, including landsliding, liquefaction, subsidence and settlement.** Sliding may occur in the hills, especially those on the eastern side of the Walnut Creek area. Liquefaction, a temporary quicksand condition, may be a problem along the various creeksides (see Figure 5). Differential subsidence, a condition where two adjacent pieces of land subside by different amounts, is possible along active or inactive fault traces or other subterranean zones of geologic weakness.**

General Geology: Structure and History

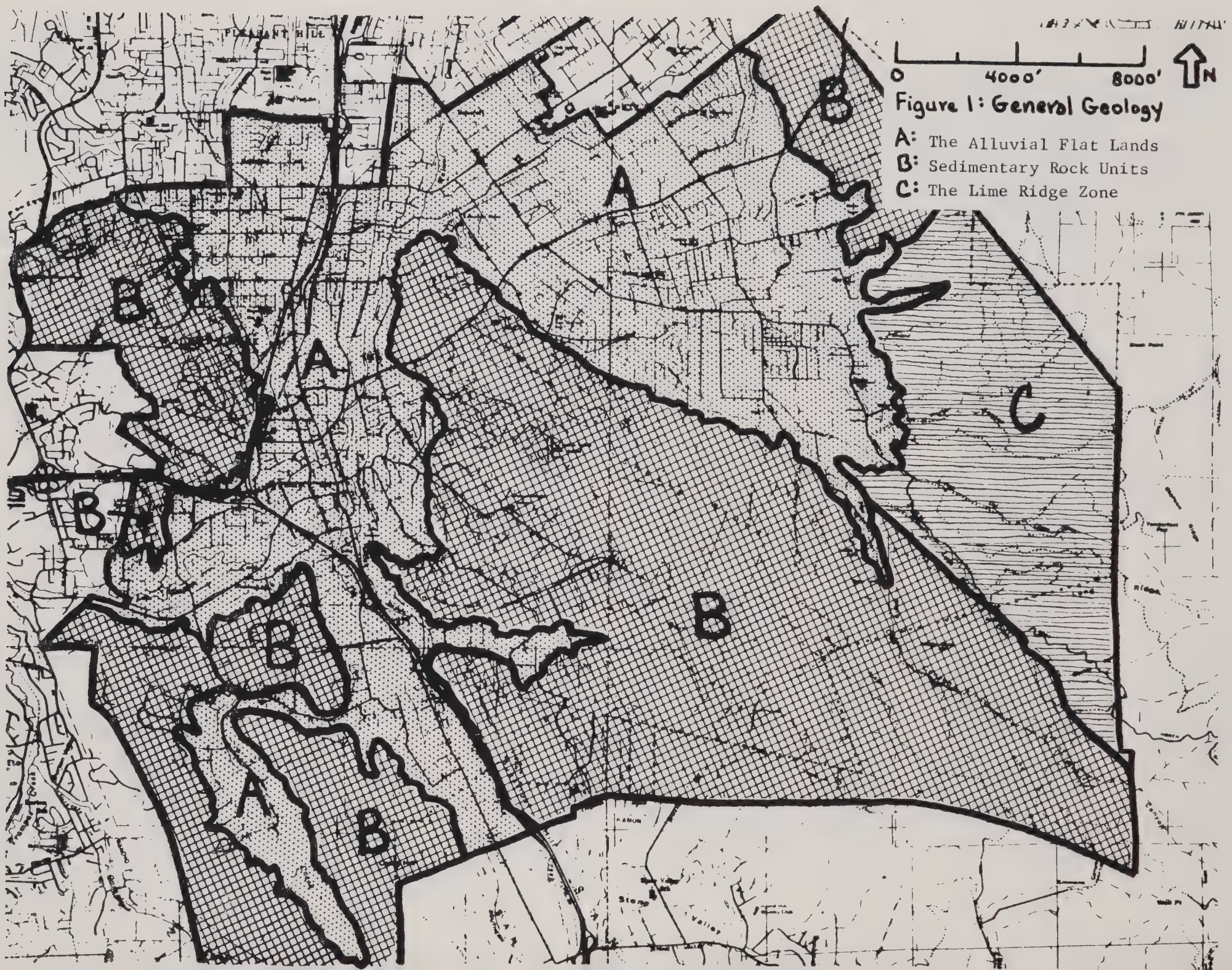
The Walnut Creek Planning Area can be divided into three geologic zones based on the age and the general type of rocks exposed on the surface. These areas are (see Figure 1):

A. The Alluvial Flat Plains (less than 3 million years old)

Zone A of Figure 1 illustrates those areas composed of gravels, sands, silts, and clays derived from rocks either upstream, upslope, or beneath older deposits. Much of this ground is flat lying so that the possibility of landslides or mudslides is minimized. Groundshaking, however, will be severe in much of the area. Liquefaction and subsidence may also present problems in localized areas.

*Refer to glossary for definition of terms.

**Additional material on each of the following sections is available in the Seismic Safety Supplementary Report, 1974. Large-scale maps illustrating fault zones, slide risk, and liquefaction potential are also available for the public at the Planning Division office.



B. Sedimentary Rock Units (3 to 70 million years old)

The hilly areas of Rossmoor, Acalanes Ridge, and Shell Ridge are the primary locations of the older tertiary sedimentary rock units in the Walnut Creek area. These rocks are primarily sandstones with smaller amounts of conglomerates, tuffs, shales, and siltstones. Slope stability problems exist in several of these areas, especially in the steeply sloping portions of the hillside. Damage caused from differential subsidence can also occur in this zone.

C. The Lime Ridge Zone (rocks 70 to 180 million years old)

The rocks in Zone C are largely composed of shales, although Franciscan formation rocks of varying types, diabase, and serpentine also occur at the eastern border of the area. This area, because of the steeper slopes and the nature of the rocks, is the most prone to sliding. Other types of earthquake-related hazards are of minor importance in the zone when compared to slope failure.

Faults and Fault Displacement

A fault is a fracture (or break) in the earth along which the rock on one side has moved (or has been displaced) relative to the rock on the other side. For planning purposes, the numerous faults that occur within the Walnut Creek planning area have been classified as active, potentially active, and inactive. The classification system is based on how recently the faults have moved. The Concord Fault System is classified as active while the Calaveras System is considered to be potentially active.

Active and potentially active faults can produce the relative movement of two adjacent pieces of land. Although the exact direction in which faults will move cannot be predicted, zones within which the rupture will occur with high probability can be mapped. This has been done and the zones are shown in Figure 2. Approximate locations of fault lines are noted. The fault lines are dashed where located approximately and dotted where the fault is concealed. Fault traces have not been precisely located due to insufficient data and the cost of obtaining additional information.

The Preliminary Special Study Zone mapped by the State Geologist (as part of the State Geologic Hazards Zones Act) for the active Concord Fault System is included in the Concord Fault Studies Zone. Some additional area has been included to reflect more accurately the location of this fault.

Groundshaking and Ground Response

Groundshaking resulting from an earthquake causes more damage to structures than any of the other seismic related hazards. Unlike fault displacement and ground failure, it will affect all of the structures in the Walnut Creek Planning Area regardless of location. Earthquakes originating outside as well as inside the planning area can produce ground shaking. Figure 3, following, shows the approximate location of the major fault systems along which a fault break could occur which would produce significant ground shaking in the area.

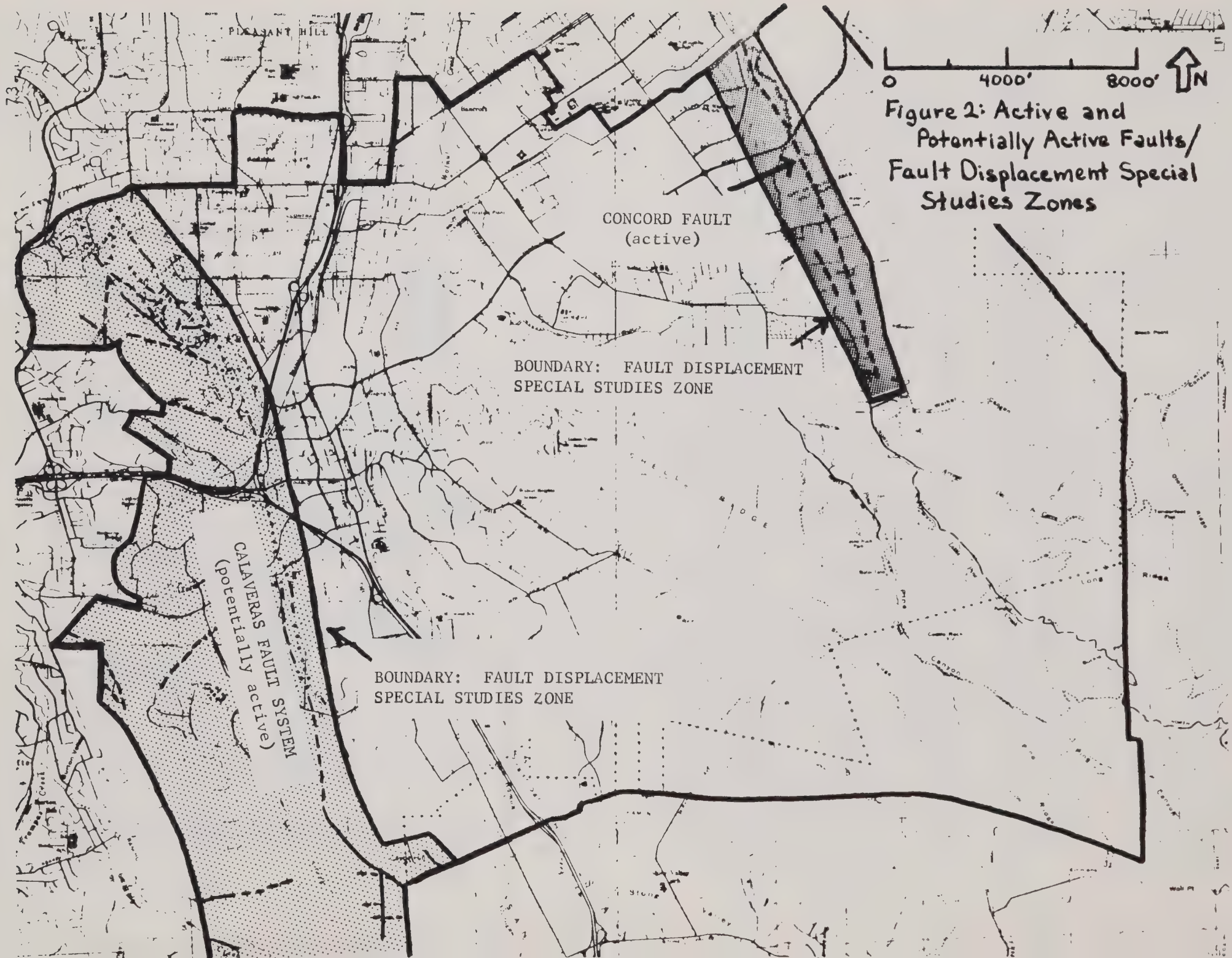


Figure 2: Active and Potentially Active Faults/
Fault Displacement Special Studies Zones

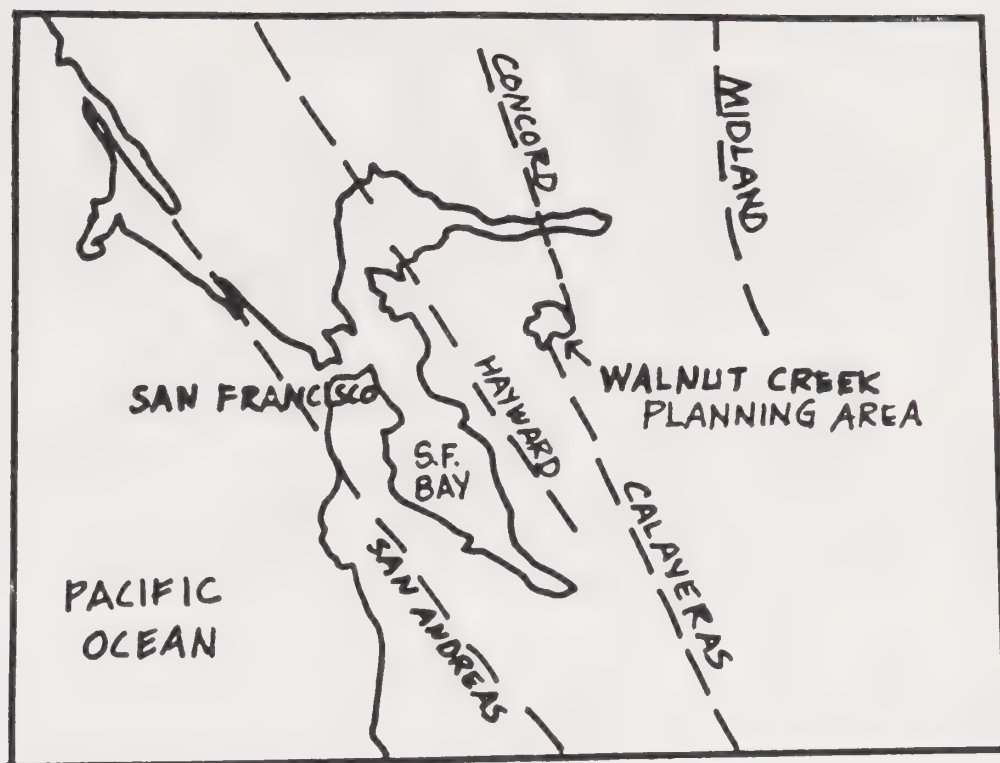


Figure 3*: Faults Producing Groundshaking

Damage to structures has occurred in the past, most notably from the earthquake on October 23, 1955, attributed to the Concord Fault. Newspaper accounts of this event** in Walnut Creek indicate that glass windows shattered, brick walls cracked, chimneys shifted, bottled goods tumbled and broke, and parapet damage occurred. Other accounts*** regarding Walnut Creek indicate similar damage from earthquakes attributed to the San Andreas, Hayward, and Calaveras Faults. Records of earthquakes on the faults shown on Figure 3 that should have been felt in Walnut Creek do not go back a sufficient amount of time and lack adequate detail to be of use in predicting the amount of damage to be expected from future earthquake shocks or the amount of time separating shocks of large size. One can, however, estimate the size of the largest earthquake that can be generated by each of these fault systems. The San Andreas Fault can be expected to generate a large earthquake similar in size to the San Francisco Earthquake of 1906. The other faults are capable of generating a moderately large earthquake similar in size to the San Fernando Earthquake of 1971.

*Adapted from ARMSTRONG (1973), page 112.

**Contra Costa Times, October 24 and 27, 1955

***"Earthquake File" at the Contra Costa County Public Library in Pleasant Hill.

Damage to buildings is related to a variety of factors. Present knowledge of groundshaking effects is insufficient for making specific statements regarding the potential damage to be expected from each of these factors.

In general, tall buildings receive the greatest damage on thick, soft, water-saturated sediments, such as those found in north central Ygnacio Valley. One to two story buildings receive more damage on firmer ground than on thick sediments. Areas of little or no soil cover are shown as "B" and "C" in Figure 1.

Tall buildings are more susceptible to damage from larger earthquakes occurring at greater distances. Short buildings are more susceptible to moderately large earthquakes at shorter distances. Thus, a large earthquake on the San Andreas Fault will do the most damage to tall buildings in Walnut Creek, while a moderately large earthquake on the Concord or Calaveras Faults will do the most damage to one-story buildings in the City. The type of building construction can also be directly related to damage. The one-story, wood-frame building is least susceptible to damage, regardless of soil conditions, and unreinforced masonry buildings are most susceptible. The age of the building is often indicative of its ability to survive severe shaking because younger buildings may have the benefit of the increased sophistication of earthquake design which has occurred through the years.

Ground Failure

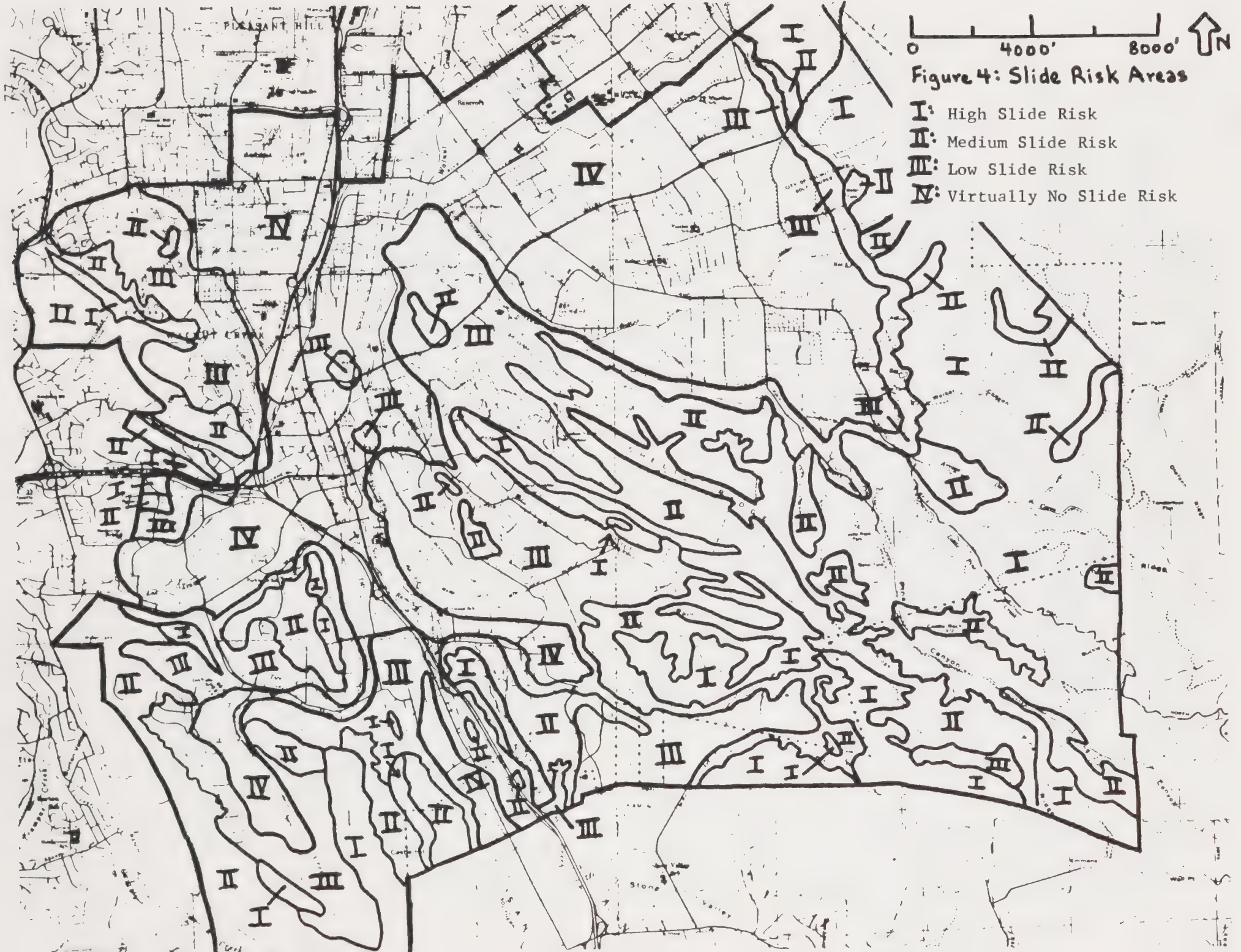
Ground instability, or the inability of ground materials to provide a stable foundation for buildings, is a general concept involving four more specific types of ground failure: slides, liquefaction, sensitive soils, and differential subsidence. Each type of ground problem is described separately in the sections which follow.

A. Sliding

Sliding is an erosional process involving the movement down a hill of a mass of soil and/or rock. The rate of movement ranges from several miles per hour in the case of wet, weak rocks on steep slopes to only inches per year (creep) in some materials. Earthquake shaking can trigger slides. The degree of sliding will depend on the severity of the earthquake.

Certain areas are more likely to develop slides than others. The Walnut Creek Planning area can be divided into the following risk zones based on the relative probability of sliding occurring (see Figure 4):

- I. High Landslide Risk (areas of known slides and ground highly susceptible to sliding)
- II. Moderate Landslide Risk (areas of few or no slides and ground occasionally susceptible to sliding)
- III. Low Landslide Risk (hilly areas least likely to develop slides)
- IV. Virtually No Landslide Risk (flat lying areas not in the path of slides)



Regions of high, moderate, and low risk are located in all of the hill regions of the planning area. The portion of Lime Ridge in the planning area has a relatively higher risk, however.

Damage to structures can occur as a result of the ground cracking that occurs at the head (top) of a slide, the lumping that occurs on the surface, or the lurching action that occurs at the toe (bottom) of the slide. Foundations may be undercut or distorted, or the building itself may be hit by the slide.

B. Liquefaction

Liquefaction is a process by which loose, water-saturated sands and other granular materials suddenly lose strength when shaken in an earthquake. The grains temporarily become suspended in the water and the material flows like a quicksand.

Liquefaction can enable sliding on extremely low-angle slopes (less than 5%), cause settlement (see section below), and cause foundation materials to lose their strength.

Figure 5* illustrates the location of areas of varying liquefaction potential according to the following key:

- I. Possible Liquefaction Potential
- II. Liquefaction Potential Probably Absent
- III. Virtually no Liquefaction Potential

The possibility of liquefaction is greater in the rainy season because more materials are saturated.

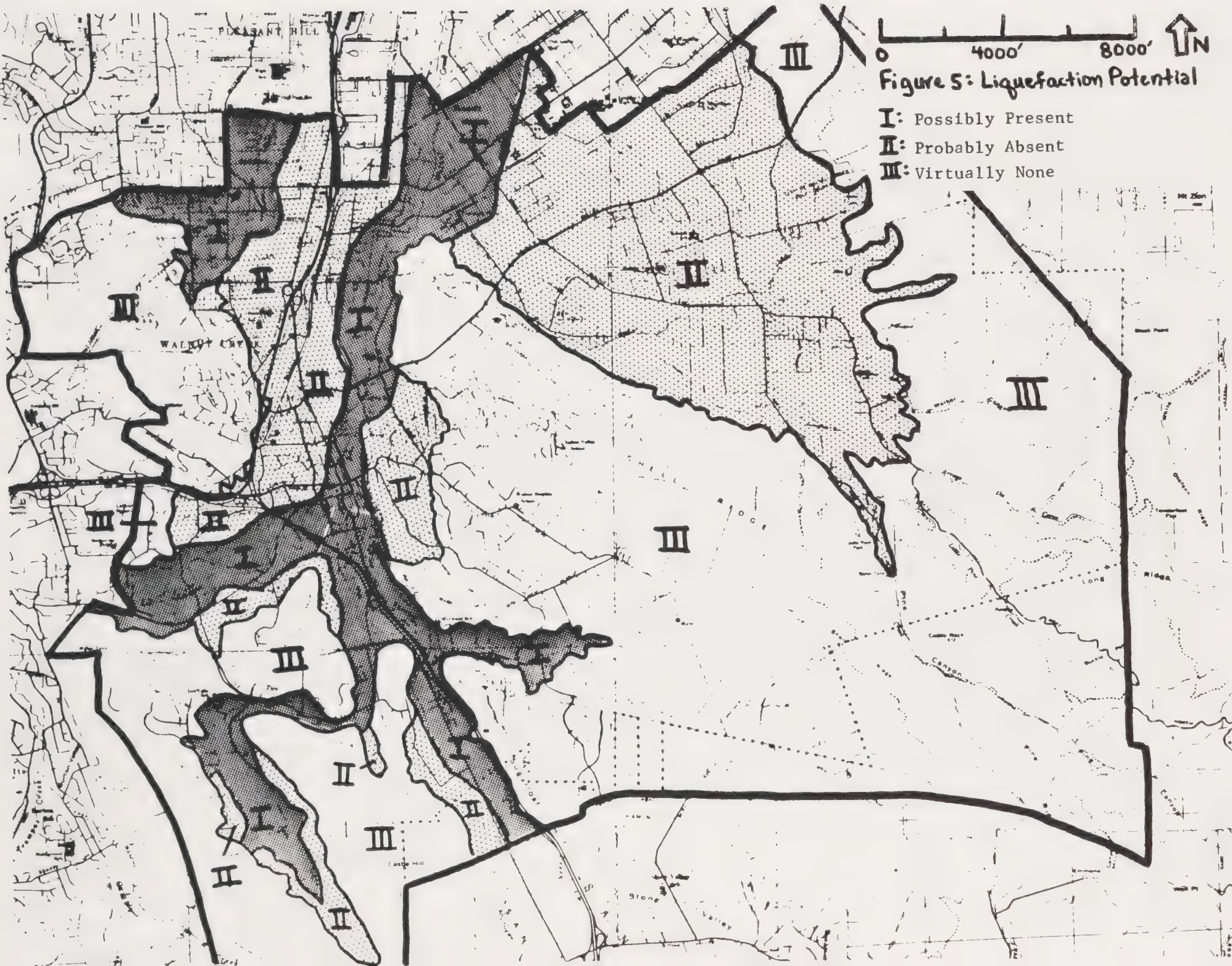
C. Sensitive Soils

Sensitive soils are fine-grained cohesive soils (clays) whose strength when shaken is far less than when undisturbed. The most well known soils of this type are the San Francisco Bay muds. These gelatin-like soils do not appear to be present within the Walnut Creek Planning Area.

D. Differential Subsidence and Settlement

Subsidence is a process by which certain areas of ground are lowered in elevation, or sink. Differential subsidence occurs when one portion of ground is lowered to a greater extent or at a faster rate than an adjacent portion of land. This process can cause damage to structures or to public arteries located on the boundary between two areas experiencing differential settlement. Such boundaries are likely to be fault lines (whether active or inactive), especially when the materials on opposite sides of the fault are different. This is because faults are zones of weakness along which readjustments can easily occur.

*Since the seasonal high ground water table is so near the surface (less than 15 feet) in the valley areas, all valley deposits are assumed to be saturated within 40 feet of the surface. No exact information is available on the distribution of loose sands. Divisions are based on the probable distribution of these materials through interpretation of the environment for sediment deposition. Additional information could change the size and location of these areas more radically than it could change comparable areas for any of the other seismic hazards. This potential inaccuracy should be remembered while evaluating areas. Well logs and test borings were used when available.



Settlement, another form of "sinking" can also occur as a result of seismic activity. Loose sand, when shaken, tends to easily compact, resulting in a lowering of the surface and possible damage to those structures located on top of the materials.

Differential subsidence and settlement cause problems throughout the area. Therefore, no figure has been prepared showing risk areas.

Water-Wave Effects

Two types of water waves are triggered by earthquakes. The first of these, the tsunami or "tidal wave," occurs along ocean shorelines. This type of wave is, obviously, no problem in the Walnut Creek area. The second type of wave, the seiche, is a minor problem. Seiches are waves which occur in confined basins, such as reservoirs. They can occur as a result of fault displacement in the lake bottom, or as a result of a large landslide into the basin. In either case, a wave is generated which may overtop a dam and cause the dam to fail. Lake Lakewood and the stockponds in the planning area are so small that dam failure would only cause minor street flooding. One possible exception is the case of the newly released water saturating additional ground, thus making it more prone to sliding or liquefaction during a later shock.

II. SEISMIC EFFECTS ON MAN-MADE STRUCTURES

Summary of Potential Effects

Man-made structures respond in varying ways to the hazards discussed in Section I. This response is the result of an interaction of the natural hazards, the ways in which construction alters these processes, and the type of construction used.

Public arteries, such as roads, power lines, and water lines are linear, and therefore are subject to disruption of service if failure occurs anywhere along their route.

Those buildings in Walnut Creek that are critical to dealing with emergencies as well as other high-priority buildings are generally located in relatively low risk areas and are usually of suitable construction to resist damage. High-use buildings, especially the older commercial buildings in the central business district, have more problems.

If current land-use patterns are superimposed on the various risk areas, one discovers that high and medium risk areas are, in general, being avoided. Such an analysis may call for, however, possible redevelopment of the central business district and avoiding new development in the unstable hill regions of the planning area and along the Concord Fault.

Public Arteries

Public arteries of concern to Walnut Creek include the major transportation routes, water pipes and canals, telephone lines, power transmission systems, and fuel lines. These service ribbons are critical in emergency situations and can cause extensive disruption of the community and region if they fail. An analysis of each of these follows:

Major Transportation Routes

Ygnacio Valley Road crosses the active Concord Fault at the base of Lime Ridge. Therefore, significant displacement on this fault in this area could prevent road access to and from Clayton. The major intersection between Highway 680 and Highway 24, near the BART tracks, is partially on the Franklin Fault of the potentially active Calaveras Fault System. Although actual fault displacement is unlikely at this location, settlement along this zone of weakness could contribute to damage. This would make those regions in the far western portions of the planning area more dependent on Lafayette than Walnut Creek for emergency aid and temporary access.

Most major roads in Walnut Creek are relatively free from landslide problems. Exceptions to this are Ygnacio Valley Road where it crosses Lime Ridge, Highway 24 and the BART tracks where they enter the western boundary of the planning area, and the segment of Tice Valley Road south of Olympic Boulevard and northeast of Rossmoor.

Although regions of possible liquefaction potential are relatively small in area, they are located in crucial areas. Those roads in the central business district south of Ygnacio Valley Road, including the intersection of South Main Street with Highway 680, might sustain some damage as a result of a quake.

Fuel Lines and Gas Lines

A motor and diesel fuel line runs along the Southern Pacific Railroad right-of-way. Although this line runs through areas of possible liquefaction potential, problems are unlikely. The leak detection equipment at the pumping station in Concord would shutoff immediately and within 15 minutes the valve in Walnut Creek would be closed.

Natural gas lines of varying sizes are found throughout the planning area. If breaks occur on these lines, valves can be closed to isolate the breaks. There is, however, at least a temporary fire hazard each time a gas line is disrupted.

Condition of Buildings

The effects of the seismic hazard on buildings were analyzed by categorizing structures within the planning area into four groups: critical-emergency buildings (hospitals, fire stations, and administration headquarters), high-priority buildings (schools, other government buildings, and convalescent hospitals), high-use buildings (commercial, research-office, large apartment complexes, and churches) and smaller residences (small apartment complexes, duplexes, and single-family homes).* The depth of study of the buildings varies from individual building analysis in the first two groups to a very general evaluation of the last group of residences.

Critical Emergency Buildings

Critical emergency buildings are defined as being those buildings critical to dealing with an emergency situation such as a major earthquake. These include:

<u>Figure 6 - Reference Number</u>	<u>Building</u>
1	Fire Station No. 1
2	Fire Station No. 2
2	Fire Administration Building
3	Fire Station No. 3
4	Fire Station No. 4
5	Department of Motor Vehicles
6	City Hall
6	Police Department
7	John Muir Memorial Hospital
8	American Red Cross
9	Kaiser Foundation Hospital

Fortunately, all are of fairly recent construction (since 1952) and therefore have been subject to reasonably modern building code standards. Although modern standards are not perfect, they have been consistently improving. None are located on known active or potentially active faults or in Medium or High Slide Risk Areas. Several buildings, including two fire stations, the City administration buildings, and Kaiser Hospital are located in areas with a possible potential for liquefaction. The one critical multistory building, the John Muir Memorial Hospital, is a type of construction suited to withstanding ground shaking. It is also located on rock, not deep loose sediments, which is an advantage in resisting damage.

*A table giving the location, occupancy, age, number of stories, type of construction, fault risk, slope stability risk, liquefaction potential, and comments on many of these buildings is included in the Seismic Safety Supplementary Report.

Canals, Pipelines, and Reservoirs

The Walnut Creek area is served by two separate water systems. The eastern portion of the area, including Ygnacio Valley, is served by the canals, pipelines, and the reservoir system of Contra Costa Water District. The western portion of the area, including the central business district, is served by the East Bay Municipal Utility District.

Both the main Contra Costa Canal and the Ygnacio Canal (carrying untreated water) of the Contra Costa Water District cross the Concord Fault. Although it is unlikely that total of these systems failure would ever occur due to fault movement, substantial leakage into the ground could cause loss of some water if the canal were operating near capacity. Treated water is piped from south of Martinez to several water tanks and two main storage reservoirs, one located near San Miguel and Treat Boulevard in Concord, and another east of the City Golf Course. Water is therefore transferred across the Concord Fault in two major lines. Each can serve as a back-up to the other in a small earthquake. In a major earthquake, however, causing offset along the fault, both pipelines would probably rupture.

The Mokelumne Aqueduct of EBMUD crosses several slide risk areas within the potentially active Calaveras Fault Zone. The likelihood of enough movement occurring (either as slide failure or as differential subsidence) to cause the pipeline to rupture is possible. The pipeline does cross the projected traces of two faults near Carquinez Strait (Concord and Midland Faults) outside the planning area. These two utility districts rely on rapid repair as opposed to special pipeline design to minimize disruption of service.

Sewage Lines

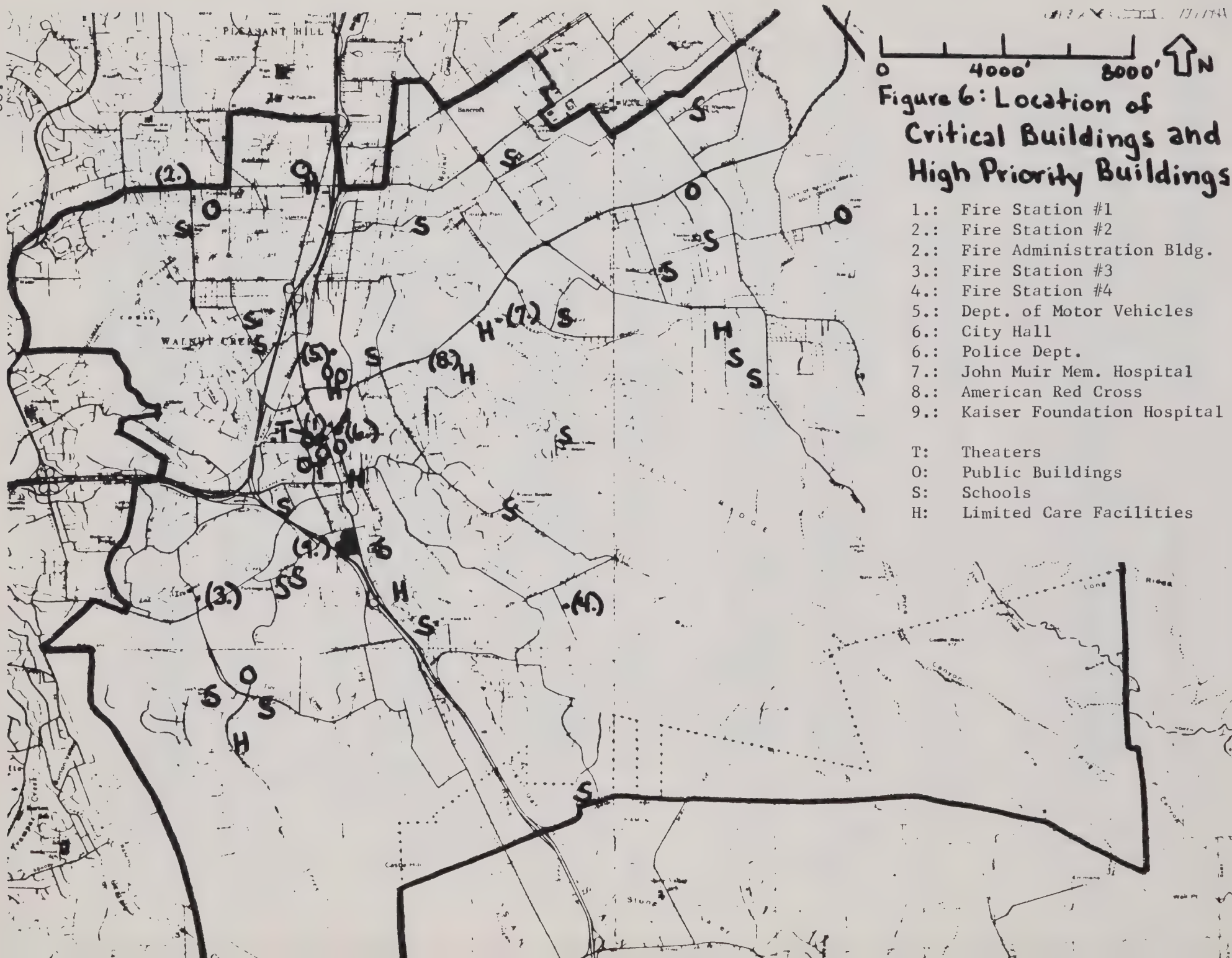
Walnut Creek is served by the Contra Costa County Central Sanitary District. The sewer lines are a larger diameter near the District's treatment plant near the junction of Highway 680 and Highway 4 to the north of the planning area. The largest sewer lines are therefore not found near the largest water service lines (near the Mokelumne Aqueduct to the west and near Lime Ridge to the east). They do not cross the Concord Fault, and service would probably not be disrupted by an earthquake. Very little potential exists for breaks in adjacent water and sewer lines to contaminate much of the water supply.

Telephone Lines

Because of the large amount of duplication in telephone lines, service is very difficult to disrupt. Excessive numbers of calls made immediately after an earthquake may cause problems in getting emergency calls through. Damage to the telephone center located in the downtown area could, however, cause substantial problems. Work is being done by the telephone company to prevent this type of equipment failure.

Power Lines

Two main power lines pass through the planning area. Both travel in a general east-west direction, one being in the northern portion of the area and the other being in the southern portion. Thus, both must cross the Calaveras Fault System, areas of possible liquefaction potential, high slide risk areas, and the Concord Fault. Usually, however, above-ground power lines are not susceptible to disruption of service.



High Priority Buildings

High priority buildings are buildings that should survive an earthquake so that they may become emergency meeting places or because they are viewed as important to the social coherence of the community. These buildings are:

<u>Figure 6 - Reference Number</u>	<u>Building Type</u>	<u>Number in Area</u>
T	Theaters	2
O	Public Buildings	12
S	Schools	23
H	Limited Care Facilities	8
-	Bldgs. of 5 or more Stories	-

The majority of the buildings are of recent construction giving them the benefit of reasonably good construction practices. Most are also one story, wood frame buildings, the type least susceptible to damage from ground shaking. The Parkmead Intermediate and Elementary Schools are the only two buildings examined which were so close to the potentially active Franklin Fault of the Calaveras Fault System to warrant further consideration. None of the buildings were located astride the active Concord Fault, although one building, the Walnut Creek Golf Course Club House, is in that fault's Special Management Area. The school yards of the two Parkmead Schools and of the Indian Valley School are in medium slide risk areas. These playgrounds may develop substantial slides during an earthquake which would interrupt the functioning of these schools. Ten of the 45 buildings in this category are on soils that may liquefy during an earthquake, including the Junior Museum, the Main Post Office, the Park and Recreation Building, the Library, three schools and three convalescent hospitals.

High-Use Buildings*

High-use buildings are generally structures that are important because of the large number of people that often occupy them. These buildings include: commercial buildings and large apartment units (50 units or more) and churches.

The majority of the high-use buildings are located in or near the central business district. Of these buildings, approximately 80% of the commercial buildings are of recent construction (built during the last 25 years). The same is true of the large apartment units.

The majority of the buildings in the core area are of wood frame construction. Of the remaining buildings, approximately two-thirds are steel frame and one-third are masonry. Some of these buildings, especially the older masonry ones, will have problems during a large earthquake.

Few of the high-use buildings are in the potentially active fault area of the Calaveras Fault System. Virtually none are in the Special Management Areas of the active Concord Fault. Therefore, very little damage should be expected from fault displacement. Most of these buildings are located on areas that may liquefy during an earthquake, especially those located in the southern business district and near the Walnut Creek Channel. The severity of this liquefaction potential is unknown.

*The Core Area General Plan (Walnut Creek) of 1965 provided the generalized statistical data for this section.

Extensive ground shaking will cause damage to most buildings in a major earthquake. If multistory buildings (3 to 4 stories) were located in North Ygnacio Valley, they would be particularly susceptible to damage because of the thickness of the water saturated sediments which underly them. Multistory wood frame apartments on concrete slab parking structures can also be susceptible to damage.

Even though buildings may not structurally fail as a result of ground shaking, they will often functionally fail. Elevators may become inoperable and entrances may be blocked by falling parapets or blocking of the doorway. Tile often is thrown off roofs, windows break, and the contents of the building are thrown to the floor.

Smaller Residences*

The small apartment complexes, duplexes, and residences of Walnut Creek are largely one to two story wood frame buildings. These buildings are usually not susceptible to major damage. The problems that might develop would probably be due to isolated slides and isolated fault displacement.

Land-Use Patterns

Basic to the concept of "hazard" is the relationship between (1) the natural geologic event and (2) the people, property, and society affected. This relationship is more general than the specific location of a particular building and the best means of accurately assessing the relationship is by examining present land-use patterns.

Present development is concentrated in the flat-lying regions of the planning area. Thus, though unintentionally, those areas designated as "high" and "moderate" slide risk have been avoided. The region around the Concord Fault has had low-use development. The City of Walnut Creek Golf Course has precluded more intensive use of that portion of the fault region. Lack of high rise buildings and a predominance of wood frame buildings will probably result in a minimum of structural damage. Since the last major earthquake occurred before much of the present development, ground shaking potential damage cannot be assessed with confidence.

Although the concept of "appropriate land use" from a geologic standpoint is very complex, it can generally be summarized that as the intensity of land use increases, the level of acceptable geologic risk decreases. Thus, the highest intensity of land uses should be located only in areas of lowest relative risk.

*Includes: High density residential - apartments up to 50 units, the small lot residences of cluster developments, and subdivision projects of 25 units or greater.
Low density residential - subdivision projects of less than 25 units and lots up to one acre.

III. DISASTER PREPAREDNESS

The current program for dealing with emergencies at the City, County, San Francisco region, and State level is described in the Safety Element of the General Plan. A review of the local emergency program is included in that document.

Earthquake-related disasters are unique in two respects that must be remembered while reading the Safety Element. First, earthquakes are not a local community problem; they are a regional problem since a major earthquake anywhere within the San Francisco Bay region will affect the Walnut Creek area. Damage to public arteries, such as highways and major water aqueducts outside the Walnut Creek planning area will greatly affect the planning area. Thus, preventive programs such as land-use planning, development regulation, and construction regulation are best if they are coordinated on a regional or state-wide basis. Second, earthquake disasters are, at least initially, a local problem. Mutual aid pacts with adjacent cities are of minimal use after a major quake since they will be groping with their own difficulties.

IV. RECOMMENDATIONS AND IMPLEMENTATION PROGRAM

Summary

Two basic approaches for dealing with seismic problems exist. The first is to prevent an emergency through incorporating geologic information into long-range land use planning, through regulating development, and through regulating construction. The second is to deal with the emergency through disaster preparedness. The second method should be considered a short-term answer only, while the first method is more appropriate as a long-term solution of the problem. Although much of Walnut Creek is now committed to one form of land use or another, it will be possible for the City to change land uses on a long-term basis through the process of redevelopment. An implementation program to insure that continued urbanization adequately considers geologic hazards in developmental actions is outlined in this section. Basically, the program includes:

1. Revisions of the General Plan and zoning ordinances.
2. Requirements for special geologic studies to be submitted as a part of development review process.
3. Revision and enforcement of building codes and development standards.

Risk Analysis

A distinction exists between those risks which are considered acceptable and those which are considered unacceptable by the community. This element recommends that at those times when the risk is unacceptable, or when the danger to the health and safety of its inhabitants rises above a certain acceptable level, the City should act to lessen that risk.

An "acceptable level of risk" is defined as follows:

1. In a minor earthquake, no injuries will occur, structures will not be damaged, and no social disruption will occur.
2. In a moderate earthquake, a few injuries will occur, buildings will suffer some nonstructural but no structural damage, and minor temporary social disruption will occur.
3. In a moderately large earthquake (equivalent in intensity to the largest expected in this area), several injuries will occur but no deaths, buildings will not collapse but will suffer both structural and nonstructural damage, and social disruption will occur but it will be of the size and type expected so that it can easily be dealt with.

Methods of Implementation

A. Revisions of the General Plan and Zoning Ordinances

Since other elements of the General Plan were prepared prior to this element, certain changes are needed to coordinate some of the new concepts expressed in this plan with other parts of the General Plan text. The following is a list of recommended amendments:

a. The Land Use Element should recommend that whenever possible high intensity land uses should be located in the lowest risk areas. However, this element does not recommend any actual changes in the General Plan Map.

b. The Housing Element should recommend as a general principle that low density housing be located in areas of highest geologic risk and highest density housing be located in areas of lowest risk.

c. The General Plan policy of designating open space and agricultural uses in hillsides with severe sliding and soil conditions should be reaffirmed.

d. Routing of major traffic corridors across areas of high risk should be included as a policy in the Circulation Element.

e. The planning and zoning ordinance should be amended to include provisions for requiring special hazard studies and for review of these reports.

B. Geologic Study Requirements

In order to provide detailed information concerning the specific geologic hazards on the sites of all major developments falling within the boundaries of one of the hazard areas, it is recommended that geologic studies be included in the review process of these development proposals. Since projects differ in size and the relative safety of each site varies, the extent of geologic studies should thus vary to meet the conditions of each site and project. In order to determine the requirements for each study, "high," "medium," and "low" risk categories have been set up based on the following criteria:

High Risk Area: Active Fault Displacement Study Area
High Slide Risk Areas

Medium Risk Area: Medium Slide Risk Areas
Possible Liquefaction Areas*

Low Risk Area: Potentially Active Fault Displacement Study Areas
Low Slide Risk Areas
Probably Absent Liquefaction Potential Areas*
Areas of General Ground Shaking (all of Walnut Creek)
Areas of Possible Settlement and Subsidence (all of Walnut Creek)

Since all of the undeveloped high or medium risk areas cannot be expected to remain as cattle ranches or open space uses in perpetuity, evidence from geologic hazards studies can be used as factors for determining the ultimate development of a given parcel. The depth of these studies will be based on the intensity of land use of the proposed improvements and on the degree of risk expected.

If a developer chose to develop on high or medium risk areas, this study can help to delineate those sites of highest risk and of lowest risk within the area he wants to develop. Relatively high density residences might, therefore, be located in the most stable areas, while areas of highest risk might be preserved as open space. Cluster developments for example could easily adapt themselves to geologic considerations.

*The risk of liquefaction may be considerably lower than indicated in this list. Since so little work has been done in this area, however, it was considered better to be overly cautious than not to be cautious enough.

Geologic hazards studies should be required of developments according to the chart below:

Table I

TYPES OF LAND USE REQUIRING HAZARD STUDIES

TYPES OF DEVELOPMENT	HIGH	LEVEL OF RISK		ALMOST NO
		MEDIUM	LOW	
Very Critical Buildings	Yes	Yes	Yes	Yes
High-Priority Buildings	Yes	Yes	Yes	No
Commercial Buildings				
Large Scale	Yes	Yes	Yes	No
Small Scale	Yes	Yes	No	No
Residential*				
High Density	Yes	Yes	Yes	No
Low Density	Yes	Yes	No	No
Recreational				
High Use	No	No	No	No
Low Use	No	No	No	No
Agricultural				
Farming	No	No	No	No
Ranching	No	No	No	No

*Requirements for geologic reports may be satisfied for a single one or two family residence if, in the judgment of technically qualified City and County personnel, sufficient information regarding the site is available from previous studies in the same area.

These Geologic Hazards Studies should be required to contain the equivalent of the information requested in the guidelines in the Seismic Safety Supplementary Report. (Some flexibility of content is expected and a reasonable amount of administrative discretion should be given to the City staff for special situations.) The reports must be prepared by a geologist registered in the State of California and would generally include five sections: Fault Displacement, Ground Shaking, Sliding, Liquefaction, and Subsidence and Settlement.

These studies, together with the soils/foundations investigations, should be incorporated into Environmental Impact Reports for consideration as an environmental issue when appropriate.

A qualified review system should be established for these reports. Two options are suggested:

a. Establish a citizens advisory committee of technical expertise (including, preferably, a geologist and an engineer registered in the State of California).

b. Retain a local consultant who is a geologist registered in the State of California.

Funding for this review should be obtained as follows:*

At the preliminary stages of the application process for developments on which studies will be required, fees should be collected for review, administration, and assessment of the geologic reports. The fees for processing and review of the geologic reports could be handled in a manner similar to the way in which environmental impact reports are treated. The timing of the reports processing could parallel that of the environmental impact report so that the application process is not unduly extended or complicated.

C. Changes in Development Standards

The recommendations of the State Fault Hazard Reports should be guided by the following minimum specific criteria:

a. "No structure for human occupancy shall be permitted to be placed across the trace of an active fault. Furthermore, the area within fifty (50) feet (on either side) of an active fault shall be assumed to be underlain by active branches of that fault unless and until proven otherwise by an appropriate geologic investigation and submission of a report by a geologist registered in the State of California."**

b. No very critical, high priority, commercial, or large apartment building (greater than five units) shall be permitted to be placed across the trace of a potentially active fault. Furthermore, the area within fifty (50) feet (on either side) of a potentially active fault shall be assumed to be underlain by active branches of that fault unless and until proven otherwise by a geologist registered in the State of California.

Suggested development standards for lands within the landslide risk boundaries include:

a. No deep-rooted vegetation shall be removed in the construction of the project.

b. Natural vegetation or vegetation which does not require watering shall be planted and/or seeded on fresh cut slopes.

c. Lawns shall be discouraged.

d. All troublesome material should be excavated.

e. No building on or at the toe of an existing landslide shall be permitted.

f. Hazardous areas shall be dewatered.

Suggested recommendations for development standards in liquefaction areas include:

a. Areas of materials with liquefaction potential shall be compacted or removed.

*All quoted information is adopted from State Mining and Geology Board "Policies and Criteria" of November 21, 1973, taken from Public Resources Code No. 2621-25.

**Public Resources Code No. 2621-25.

Suggested recommendations for alleviation of Settlement and Subsidence Hazards include:

a. No structure shall be placed across the boundary between two rock types with radically different foundation properties.

b. Areas of loose sands which easily settle when shaken shall be compacted or avoided.

c. Areas within 100 feet on either side of active faults should be avoided due to settlement problems.

D. Revisions to Building Codes

Although properly locating buildings is important in minimizing the risk of damage, the buildings must also be designed to maximize their structural safety. The most modern building practices available should be used in the design of buildings. The Uniform Building Code is periodically tightened to reflect changes and improvements in the state of the art of structural design. Editions of these codes should be adopted as soon as possible after they are published.

Since a correlation exists between building height, depth to bedrock, and ground shaking damage, building of tall structures should be discouraged in areas of deep sediments. An amendment to the Code incorporating a "soils factor" into building design should be adopted.*

Existing hazardous buildings and parts of buildings (such as parapets) are now covered in the 1973 Uniform Building Code. A problem exists, however, with enforcement since most code enforcement staff time is directed toward overseeing construction of new buildings. A program for periodically reviewing existing very critical, high priority, and high use buildings should be established.

Grading operations should take account of the additional instability caused by seismic shaking. The number of precautions taken should increase as the slide risk increases.

E. Emergency Preparedness

The public should be periodically educated as to what to do in an earthquake. Disaster preparedness program should be expanded by the City to more extensively include geologic-related disasters.

Earthquake insurance should be strongly recommended for all persons living in High Fault Displacement Risk Areas. Mudslide insurance also should be recommended for all persons living in High and Medium Slide Risk Areas.

PROVISIONS FOR REVISION

Since people may become less tolerant of seismic risk in the future, changes in attitudes should be incorporated into the strength of the policies and standards of the City's General Plan.

*For further details, see Seismic Safety Supplemental Report, 1974.

The Uniform Building Code sections pertaining to seismic design and dangerous buildings are periodically updated. It is important that new codes be adopted as they appear. Also, new provisions in the Code relating to the Seismic Safety Element should be incorporated into the element.

One of the functions of Geologic Hazard Studies, as well as of Soils Foundation Investigations and Environmental Impact Reports, is to provide additional basic geologic and soils data. This new information should be periodically incorporated into the Seismic Safety Element by the person or persons reviewing these studies. Additional base information may also result from studies done by Contra Costa County, the California Division of Mines and Geology, the U.S. Geological Survey, and other similar organizations. This information should also be incorporated in the element.

Engineering geology, geophysics, environmental geology, and seismic design are all rapidly advancing fields which are subject to rapid technical advances. The reviewing person or persons need to be familiar with these fields and their "state of the art" so that new advances can be incorporated into the Seismic Safety Element.

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GENERAL PLAN SAFETY ELEMENT

INTRODUCTION

A. Authority

Section 65302.1 of the State Government Code requires that a Safety Element be included in all City and County General Plans for the protection of the community from fire and geologic hazards. To be analyzed in this element are features necessary for disaster protection such as:

". . . evacuation routes, peak load water supply requirements, maximum road widths, clearances around structures, and geologic hazard mapping in areas of known geologic hazard."

B. Scope and Nature of Safety Element

The purpose of this element is to introduce safety considerations in the planning process in order to reduce potential injuries, loss of life, property damage, and economic and social dislocation resulting from major fire and geologic disturbances. In addition to the natural safety hazards, this plan considered some of the crime preventive aspects of urban development.

Given the strong relationship with the Seismic Safety Element, these two documents were prepared simultaneously and incorporated into a single document. Also, the Safety Element should not be confused with a Civil Defense or Disaster Preparedness Plan which are organizational tools that specify "who" does "what," "where" and "when." Rather, this element will evaluate the magnitude and range of possible disasters, analyze where faulty situations exist and make recommendations as to physical improvements needed and necessary land use controls.

C. Conditions in Walnut Creek

Walnut Creek is one of a few cities that has fortunately not had a history of natural disasters. However, the City has been urbanized for only a relatively short time and cannot by any means assume that because no problems have occurred that no problem exists. In some respects, since there has never been any major disaster, governmental agencies can only speculate as to how emergency operations will function and where likely "bottlenecks" may be situated.

DISCUSSION OF HAZARDS

A. Natural Hazards

Discussed in detail in the Seismic Safety Element were aspects of seismic and geologic hazards. Not included were discussions of other natural hazards such as flooding, tornadoes, and hurricanes or the resulting consequences.

Walnut Creek, like most other cities in California, has fortunately not had a history of tornadoes or hurricanes that did sufficient damage to cause a disaster. However, flooding has occurred frequently in portions of Walnut Creek. To date, these floods have not caused a "disaster" and their impact has been limited only to brief periods where relatively minor property damage has occurred. Lack of adequate storm drainage facilities and poor planning, not the occurrence of rainfall per se, has been responsible for the majority of the damage in the Walnut Creek area.

The greatest disaster potential in Walnut Creek can be attributed to seismic activity and its related impacts. Often in urban areas most of the damage and loss of life are not a result of the earthquake forces themselves. It has not been the collapse of buildings, liquefaction, or ground displacement which has caused the greatest damage in major earthquakes. Rather, it is the consequent fire, disruption of community facilities, and other occurrences that have been responsible for the majority of lost lives and ruined structures.

Primary sources of destruction following fault activity include: (1) natural gas lines which break and become ignited; (2) candles which are displaced during aftershocks and start sporadic fires; (3) the failure of emergency buildings such as hospitals and fire stations to be in a position to respond to emergencies; (4) the lack of passable streets to transport emergency vehicles; and (5) the lack of water pressures to fight fires.

Outlined on pages 4 and 5 of this element are areas of peak load water supply deficiencies and a listing of areas where road widths and clearances around structures are inadequate.

B. Fire Safety

Walnut Creek is fortunate to be a relatively safe community in terms of danger from major fires. Essentially there are two categories of fires that are of primary concern to the City: structural fires and grassland fires. This section of the Safety Element will describe the problems and relative dangers of each type of hazard and identify areas that have either deficient water supplies or inadequate access.

Structural Fires

The threat of a major fire disaster occurring in Walnut Creek is minimal. Generally, structures are in fairly good condition, fire fighting equipment is adequate, hydrants are sufficiently located and reasonable access for fire fighting equipment is available. Although there are isolated exceptions to this general statement, conditions are such that it is unlikely that structural fires will ever constitute a "disaster." However, as Walnut Creek continues to develop, careful attention should be given to fire protection in future high-rise structures and high-density dwellings.

Grassland and Wildfires

Wildland fires have been an historic problem in California. Nevertheless, each year more homes and subdivisions are constructed in hillside areas with a complete disregard of probable damage from wildfire, generating conditions that provide an increasingly greater potential for future disaster. Although most of the hillside areas which pose the greatest fire danger will remain as open space, many developments have been constructed on the periphery of these lands and will be endangered.

Any wildfire, regardless of size or location, poses a threat to life and property until it is contained or controlled. Therefore, it must be recognized that all wildland areas in California are "hazardous" and that fire prevention and safety measures must be used wherever people and their improvements interface with the wildlands.

Wildland fires are started by two general causes, lightning and man, the latter of which is responsible for approximately 90% of these occurrences. Once started, fires burn according to a set of chemical and physical laws. Those factors most important to fire behavior are fuel (in the form of vegetation, plus man's structural improvements), topography, and weather. Wildland fires occur most frequently within a small number of critical days each year when air temperature commonly rises to over 100°; relative humidity drops to near zero; and hot, dry, north or east winds blow at high velocities. Fire burning under these conditions have two characteristics in common: rapid spread and high intensity. They may project flaming embers several miles ahead of the main fire front and engulf individual residences or large numbers of homes in hillside subdivisions around the perimeters of urban communities. Walnut Creek is located in an area that is rated in the high classification (Class 2) of fire weather where an annual average of 1 to 9-1/2 days of "extreme" fire hazard days occur. Slopes in hill areas, including Shell Ridge, Lime Ridge, Acalanes Ridge and Sugarloaf Hill approach 60% in some areas, which is classified as the midrange of hazard by the State Division of Forestry. Fortunately, the most common vegetation on these hillside areas are grasses. Grasses are considered in the light fuel loading classification and thus minimize the overall danger of fires in this area. However, on slopes with eastern exposures where a variety of scrub vegetation and oak trees predominate, the hazards are somewhat increased. Fortunately, oak trees have a high resistance to fires and do not accumulate huge amounts of fuel debris beneath trees.

With existing fire and cattle trails throughout the hillside lands, most fires can be attacked by a variety of equipment, including bulldozers and crews, aircraft, all wheel-drive fire trucks, etc.

The most hazardous areas in Walnut Creek are portions of Las Trampas Ridge near Rossmoor, the northeastern slopes of Shell Ridge, and portions of Sugarloaf Hill and Acalanes Ridge (see Figure 3-A).



FIGURE 3-A

LOCATION OF MAJOR FIRE DANGERS

ADEQUACY OF PUBLIC FACILITIES

A. Streets and Circulation Systems

1. Rossmoor

If a disaster were to occur, one of the largest potential problem areas would be Rossmoor. The privately owned community had a population of approximately 6,200 people in 1974, all of whom are essentially situated on a giant cul-de-sac. This situation seriously impedes emergency access and would hamper any evacuation program should a major hazard occur. If damage should occur to the road at the entrance to Rossmoor, the community could become stranded. The need for a second access route to Rossmoor has been discussed for several years. Resolution of this second access, even if only to be used in emergency situations, is needed.

2. Creekside Drive

Creekside Drive is a two-thirds mile long cul-de-sac which serves several high density apartment units. At present, the entrance to the street is continually congested, especially at peak commute hours. Given the high concentration of people in this area, it is important to have quick access during emergency conditions. However, no feasible alternatives have been found to alleviate this problem.

3. Ygnacio Valley Road and Extensions

Ygnacio Valley Road, which was ultimately designed for three lanes in each direction, has already exceeded its capacity during daily use. Should an emergency situation arise during peak commute hours, Ygnacio Valley Road would become a massive traffic jam. Access to John Muir Hospital would be severed. Congestion on collector streets leading to Ygnacio Valley Road would then disrupt all circulation in Ygnacio Valley and even in the downtown sector.

4. Treat Boulevard

Treat Boulevard, which parallels Ygnacio Valley Road and serves as the only alternative transportation corridor for east-west traffic in and out of Ygnacio Valley, would be effected similarly to Ygnacio Valley Road in an emergency situation. Oak Grove Road, Bancroft Road, Oak Road, and the freeway could all become a massive snarl in emergency situations. Locations of importance on Treat Boulevard include the Pleasant Hill BART Station and the fire station near Oak Grove Road.

5. Freeways

Damage to the Interstate 680 and Route 24 Freeway Interchange could severely congest local streets following a major earthquake. Not only would Walnut Creek residents have a problem with freeway access, but the rerouting of regional traffic through City streets would hamper the overall circulation system for many months. A major earthquake could also trigger landslides and bridge failures and thus further compound surface street movement. Collector and arterial streets such as Rudgear, Newell, Mt. Diablo, Olympic, Treat, Ygnacio and Main Street.



FIGURE 4-A

TRAFFIC ARTERIES LIKELY TO BE
JAMMED DURING A DISASTER

6. BART Tracks

If a collapse of the BART aerial structures were to occur, conceivably North Main Street, California Boulevard, Ygnacio Valley Road, and the freeway could become blocked.

B. Water Supply

Ironically, the areas of primary water supply concern overlap with those areas where the dangers of fires are greatest. Both the hillside areas of Shell Ridge and Lime Ridge lie above the 450 foot water service level of E.B.M.U.D. and above the 215 foot service elevation of the Contra Costa County Water District. It is not the hillside areas themselves that constitute the greatest danger. Rather, it is the structures closest to the top of the service elevation where water pressure and supplies are lowest and the threat from wildfires the greatest.

Areas of particular concern are: (1) the Walnut Creek Municipal Golf Course and surrounding areas; (2) homes in southeast Ygnacio Valley near the end of Snyder Lane and Hutchinson and in the vicinity of North Gate Road. As more homes are built adjacent to hillside areas, the probabilities of major fire damage will be increased.

DISASTER PREPAREDNESS

Essential to the recovery of the community immediately following a disaster is the manner in which local governments respond to serious emergency functions. If emergencies are not handled properly and decisions are not made in proper sequence, the damage and loss of life from disasters can be greatly compounded.

Disaster preparedness operations occur whenever local governments must respond to any extraordinary emergency--such as forest fires, hurricanes, earthquakes, flooding, or other natural disasters; major explosions or accidents, or contamination of toxic chemicals or radioactive materials; or unusual peacetime emergencies such as civil disorders. It is the need for coordinated emergency operations involving all governmental and nongovernmental groups with the capacity to help save lives or minimize damage that distinguishes extraordinary emergencies from the emergencies that local fire and police forces, or hospitals and doctors, deal with every day.

Walnut Creek already has an adopted "Civil Defense and Disaster Operation Plan" which has been periodically reviewed every other year. The City's plans are complemented and coordinated with the State Office of Emergency Services and the Contra Costa County Office of Emergency Services. In emergency or disaster situations mutual aid plans with other neighboring cities would be implemented if the other communities were in a reasonable position to respond.



FIGURE 5-A
FIRE HAZARD ZONES DUE TO
INSUFFICIENT WATER SUPPLY

DEFENSIBLE SPACE

In response to the alarming increase in urban crime rates during the late 1960's, architects, housing developers, city planners, and police began to explore the relationship between man's physical environment and criminal activities. It had become increasingly apparent that the crime problems could not be solved by continual expansion of police forces or costly expenditures on security and surveillance equipment. Numerous studies were conducted to determine the relationships between the location of crimes and the physical considerations such as building size, densities, architectural features, and landscaping. Several conclusions were reached in regards to:

1. The reasoning behind why crimes occurred at disproportionate rates between various neighborhoods of equivalent social and economic character.
2. The types of building design and landscape treatment that either encouraged crime and vandalism or discouraged it.
3. What city planners, architects, and developers could do to prevent crime through design and thus contribute to the general welfare and social health of the city and its residents.

The City of Walnut Creek which has grown to become a sizeable suburban community and is now developing into a subregional center and is populated by a number of residents who joined the middle-class exodus from inner-cities to suburbs. A significant portion of this movement can be directly attributed to the benefits of a freer life style possible only in low-crime areas. Although the City may continue to grow, this certainly does not necessitate an equivalent increase in crime. Given the anticipated demands for new construction in the Core Area, it is especially important that new buildings not create an environment that would encourage crime.

One idea that emerged from these various studies was the concept of "defensible space."

"Defensible Space" can be defined as a physical environment which inhibits crime by creating a social fabric that defends itself:

" . . . All the different elements which combine to make a defensible space have a common goal--an environment in which latent territoriality and sense of community in the inhabitants can be translated into responsibility for ensuring a safe, productive, and well-maintained living space. The potential criminal perceives such a space as controlled by its residents, leaving him an intruder easily recognized and dealt with . . ."1)

Traditionally, the responsibility for maintaining security in suburban neighborhoods has been relegated to the police and locksmiths. However, this situation is selfdeceptive. When people attempt to protect themselves on an

1) Newman, Oscar, DEFENSIBLE SPACE, New York, Collier Books, 1973

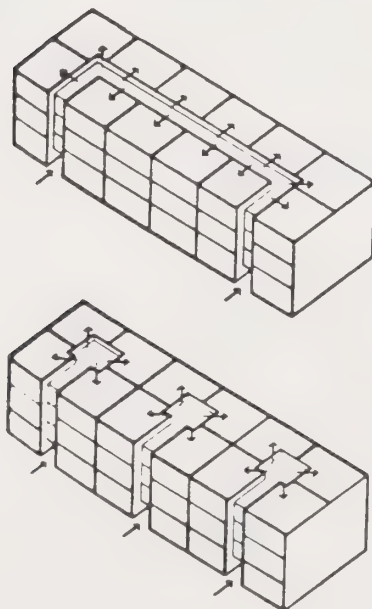
individual basis rather than as a community, the battle against crime is effectively lost.

Some of the mechanisms that architects can use to demonstrate the function of a space and who its users are and ought to be include:

1. Grouping dwelling units to reinforce associations of mutual benefit (See Figure A).
2. Delineating paths of movement.
3. Defining areas of activity for particular users through their juxtaposition with internal living areas (see Figure B).
4. Providing for natural opportunities for visual surveillance (see Figure C).
5. Creating space which one feels is his rather than available to everyone.

The role of the City in employing the concepts of "defensible space" and other crime preventive measures has never been formally defined. Although the design of all development proposals are now reviewed by the Design Review Commission and City staff, crime preventive design measures have not traditionally been a concern of local governments. One of the purposes of this element is to formally describe the importance of "defensible space" and clearly illustrate the function of this concept as part of the general plan and development process.

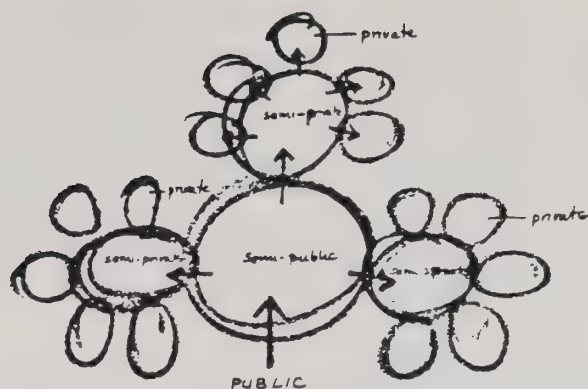
FIGURE A



Alternate designs and access arrangements for three-story walk-ups. Both buildings were designed within the same three-dimensional envelopes, but their internal subdivisions produce radically different environments.

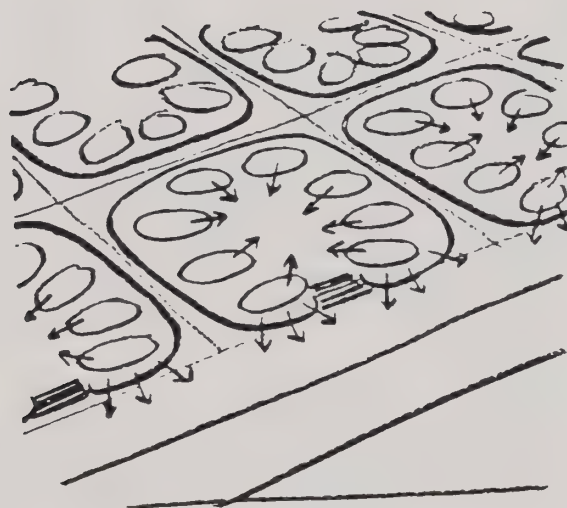
- A. All thirty-six units in the building are accessible from the two entries and the double-loaded corridors. Twelve units share a hallway at each level.
- B. Each of the three separated entries serves its own twelve units. Only four units share a hallway at each level. Residents are easily able to extend their territorial claims to include the hallways and the entry to their particular sub-building.

FIGURE B:



Schematic diagram illustrating evolving hierarchy of defensible space from public to private. Arrows indicate entries at different levels of the hierarchy.

FIGURE C:



Schematic sketch illustrating territorial definition reinforced with surveillance opportunities (arrows).

IMPLEMENTATION PROGRAM

A. Definition of "Acceptable Level of Risk"

In order to formulate an implementation program, the City must attempt to objectively determine an "acceptable level of risk." In making this determination, it should be kept in mind that any attempt to develop the appropriate planning response to potential hazard involves a judgment, either explicit or implicit, of how much risk is acceptable. There is no such thing as a perfectly hazard-free environment. Natural and man-made hazards of some kind and degree are always present. However, efforts can be undertaken to try to mitigate the consequences of known hazards.

In the context of this element, the problem of risk is one of public policy and the appropriate allocation of public resources to mitigate hazards. The central question is, "How safe is safe enough?"

For any single project, there are essentially three risks which must be evaluated: the risk to human life, to property, and the risk of disruption. Since there is always a tradeoff between cost and risk reduction, merely a simple statement that the City must eliminate or reduce risk as much as possible is both impractical and unnecessarily restrictive. There almost always exists a "breaking point" where a given risk becomes "acceptable."

By separating the total risk into several parts, all of which can be dealt with independently, the total risk can be estimated and measures taken to mitigate it. The three risk factors that should be studied in every situation include: (1) the potential frequency of any given disaster, (2) the potential for loss of life, property damage, and social and economic disruption, and (3) the degree to which a problem can be reasonably solved by a public action. Ideally, a formula could be developed to quantify these three factors and then one could apply risk factors to public costs. However, the sciences of geology and disaster planning are not advanced enough to permit a quantitative approach to this problem.

The following chart can be utilized as a general guide to the determination of the degree of risk of a given disaster situation:

$$\begin{array}{rcl} \text{Amount of probable} & & \text{Probable frequency} \\ \text{impact from a disaster} & \times & \text{of a disaster} \\ & & = \text{Amount of risk} \end{array}$$

For example, the probable frequency of a major wildland fire occurring and spreading to adjacent residential areas could be classified as "moderate." However, the amount of impact this fire may have would probably not be substantial. It is unlikely that lives would be lost or that more than a few homes would be consumed. Thus, the amount of impact stemming from this "disaster" could be classified as "low." Using a subjective decision making process, the overall amount of risk could be considered as "moderate."

If the amount of risk is then applied to possible actions that could be taken by local governments to correct a given situation, and if values were applied, one could make a determination of whether governmental action were necessary.

Degree To Which A Given Action Could Alleviate A Problem	X	Relative Cost Of The Project Or Action	X	Amount of Risk	X	Degree to Which Government Action Is Necessary
--	---	--	---	----------------------	---	--

By utilizing the given situation stated above, one could then study alternatives for reducing fire hazards. These alternatives might include construction of fire trails, addition of new fire hydrants and/or water pipes, removal of dense vegetation nearest housing.

With the exception of fire hydrant and pipe construction, the cost of each of these solutions is relatively low. In general, implementation of any one of these alternative actions would have a "moderate" effect on alleviating the problem.

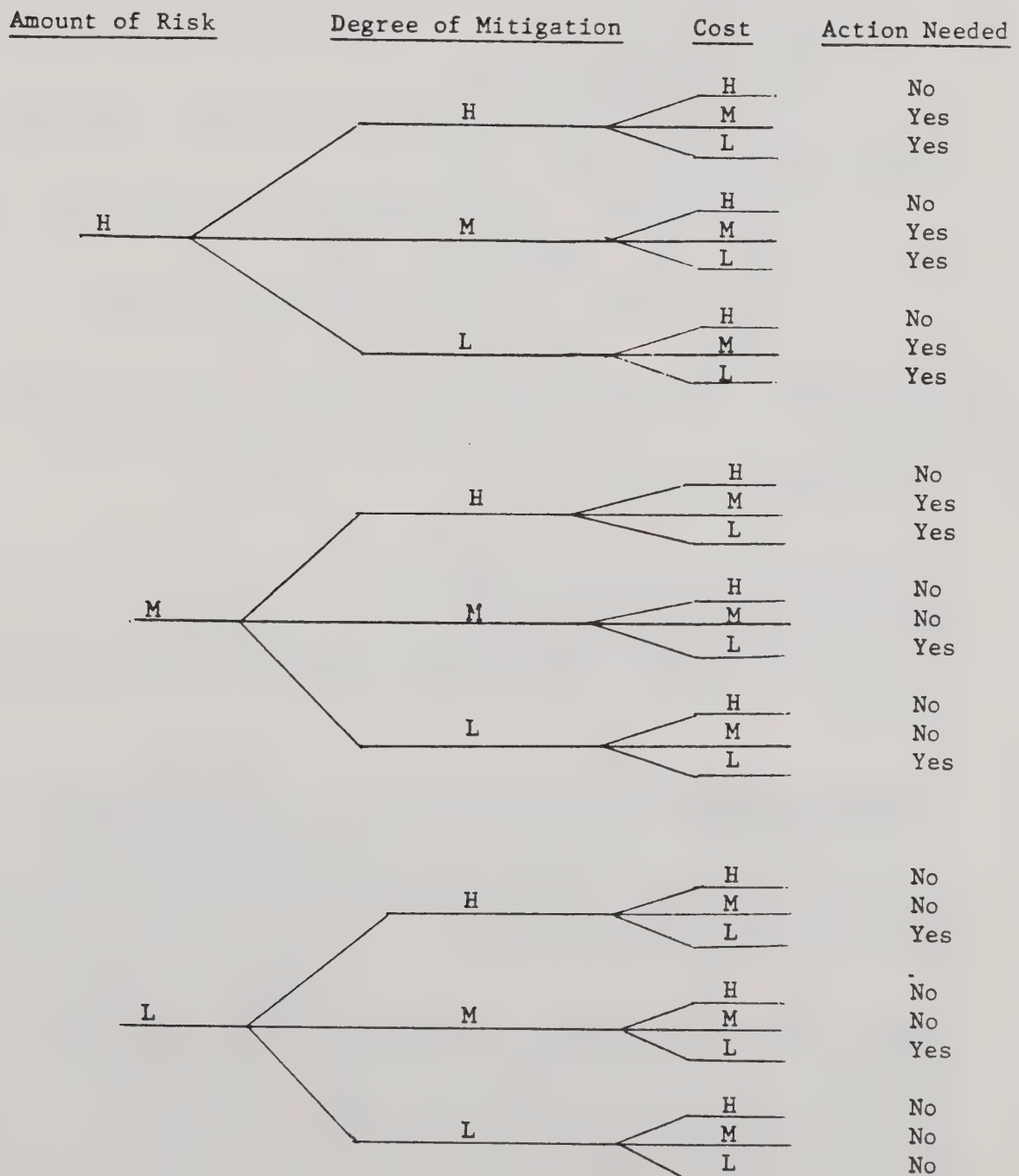
In effect, the determination as to whether or not action is necessary by the City is analogous to the determination of acceptable level of risk. The following flow charts are an attempt to illustrate how values can be plugged into the variables outlined above. If the fire hazard example is applied to the flow charts below, we could summarize "acceptable level of risk" as follows:

Amount of Risk	:	Moderate
Degree of Mitigation	:	Moderate
Cost	:	Low

Action Needed	:	Yes
---------------	---	-----

If action by the City is needed, this represents an "unacceptable level of risk."

Figure 8-A



H = High
M = Moderate
L = Low

Figure 8-A assumes that risks are known, solutions to problems are available, and that direct costs for public actions can be computed. These assumptions are, unfortunately, somewhat idealistic. For example, in many areas natural hazards may be unknown. It would be naive to assume that since no hazards have been defined that no hazards exist. Some degree of safety precautions are nearly always needed in the development process. However, where hazards are delineated, controls to mitigate conditions can be enforced more stringently. In general, the more knowledge that is available regarding risks, the less the degree of acceptability becomes.

B. Recommendations

Reduction of Fire Hazards

Many steps can be taken to reduce the potential loss to life and property by wildfire. These include:

1. Enforcement of proper building codes designed to make homes built in the wildlands relatively safe.
2. Implementation of fire safe practices including proper road construction and adequate water systems.
3. Proper land use planning and zoning which will designate where and under what conditions people should live in the wildlands relative to their exposure to the hazard of wildfire.

Reduction of Crime

Several design approaches have been used throughout history by various cultures to defend themselves and their property from outside intruders. Community design and architectural styles have been absorbed as part of the customs and lifestyle of various cultures throughout the world. For numerous technological and sociological reasons, the modern day American culture has often disregarded many crime preventive design measures.

As Walnut Creek continues to develop and redevelop, several design concepts can be included into the planning process to provide psychological deterrents to crime. Since most of the residential sectors of the City have now developed, the majority of construction in Walnut Creek during the next decade will occur in the Core Area. For this reason, the implementation program will stress concepts applicable primarily to either commercial, office, or multifamily residential uses.

Crime preventive measures should be strongly encouraged in early design stages of all new construction and should be added to the list of considerations that the Design Review Commission, Planning Commission, and City Council weigh when considering approval of any project. The public as well as designers and decision makers should at least be familiar with some of the concepts and implementation measures that the element sets forth. The Design Review Commission, in particular, should be well educated in this field and carefully review projects for this design concern.

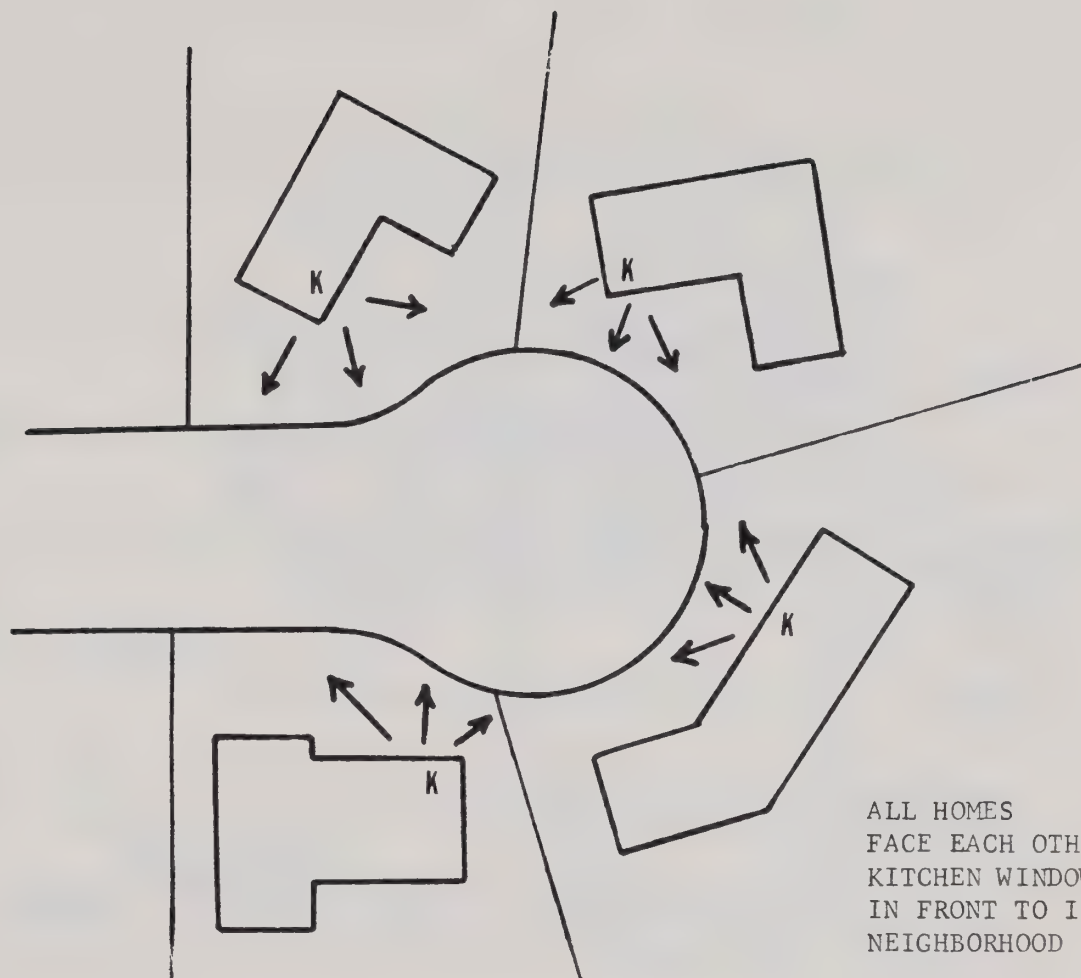


FIGURE 1

POSSIBLE CUL-DE-SAC DESIGN



FIGURE 2

As projects are submitted to the City, they should be reviewed by the Public Safety Department in addition to the City staff and other agencies who presently review plans. At this initial stage, plans should be reviewed in detail for the following considerations:

Exterior Features

A. Surface Irregularities. Areas where a person could be concealed should be eliminated.

B. Points of Entry. Points of entry to structures should not be obscured by walls or landscaping.

C. Ability to Climb. Access to roofs should be eliminated by insuring that surface materials and ornamental features, including landscaping and fences, are not designed to permit climbing.

D. Size of Windows. In order to reduce the propensity for crime, windows are ideally very narrow or extremely large.

E. Doors. The hardware of doors, door jambs, locks and hinges should be of sufficient strength to withstand severe forces. Metal doors and jambs are recommended on commercial and office buildings.

F. Storage Facilities. Storage facilities or housing for air-conditioning equipment should not permit access to any structure, its roof, or underside. When possible, these facilities should be located on the interior of structures.

G. Roofs. Whenever possible roofs should not allow concealment. Ideally, roofs would be free of skylights, electrical equipment, and have at least a moderate pitch. Mansard style roofs should be avoided.

Interiors

A. Interior Areas. Interior walkways, atriums and uncovered spaces should be secured.

B. Underground Garages. Stairwells and elevators leading to underground garages should be designed in such a manner to prevent concealment, preferably stairwells and elevator entrances would be free from hidden corners.

C. Lighting. Irregular surfaces and entryways should be lighted in a manner to prevent concealment. Two-foot candles on ground surfaces are recommended. Danger areas should be illuminated at approximately 4 to 6-foot candles.

D. Access to Underneath Structures. Access to the underside of structures should be eliminated.

Landscaping

A. Use of the "high low" concept should be encouraged. Access to roofs via trees should be avoided.

ROOF ACCESS

bad

LANDSCAPING TOO CLOSE
TO STRUCTURE, WHICH PERMITS
CLIMBING



better



SAMPLE ELEVATOR SHAFT DESIGN

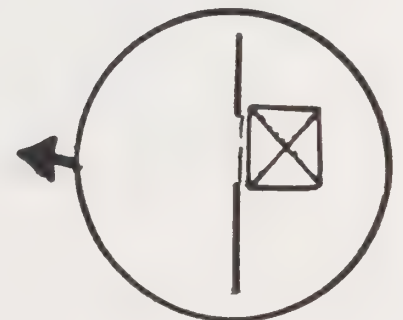
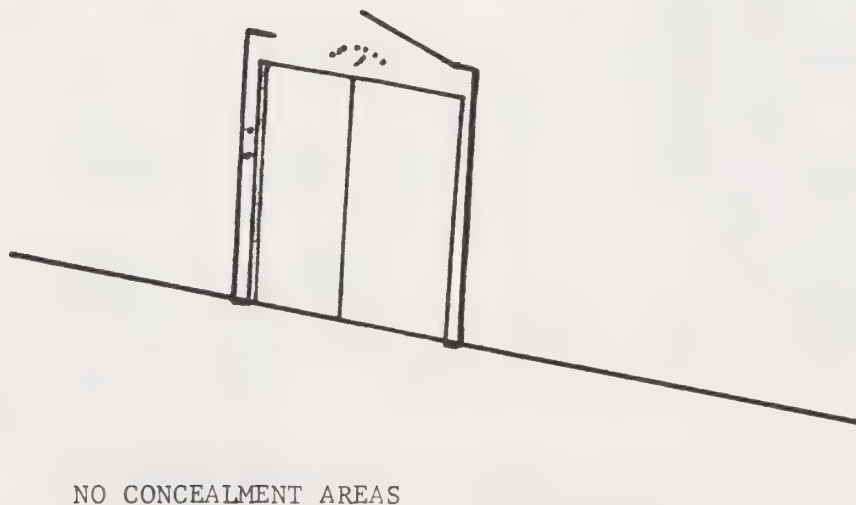
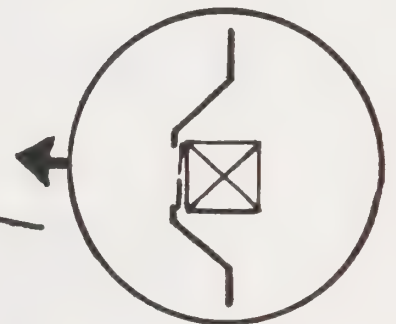
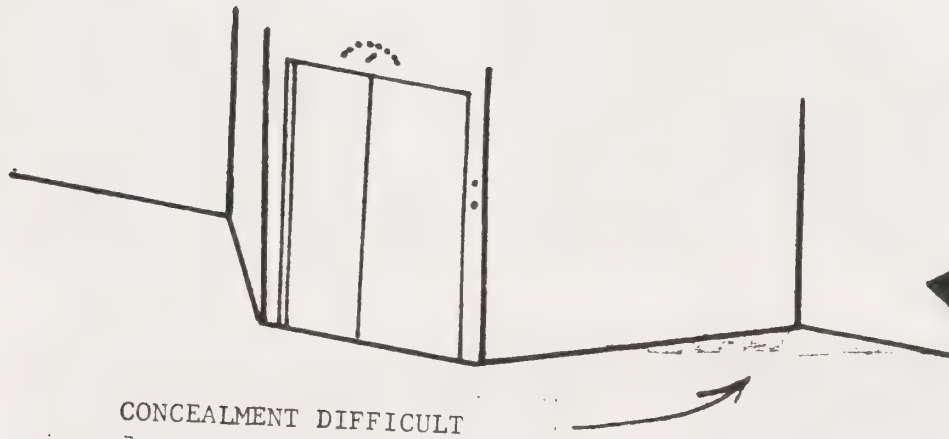
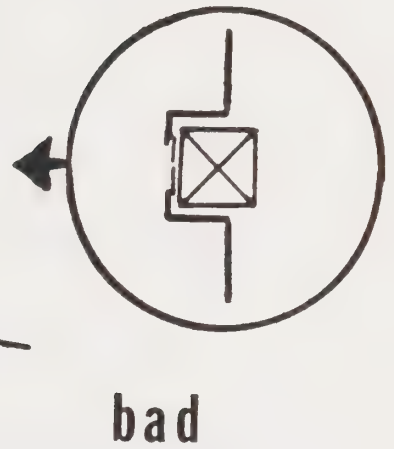
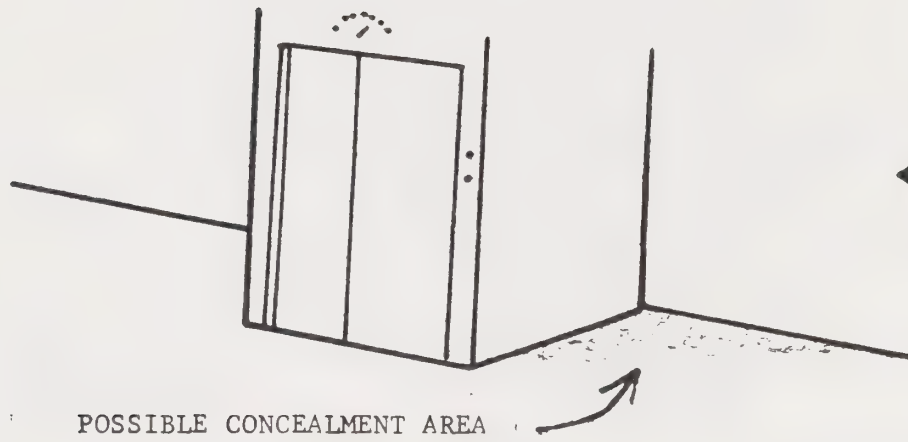
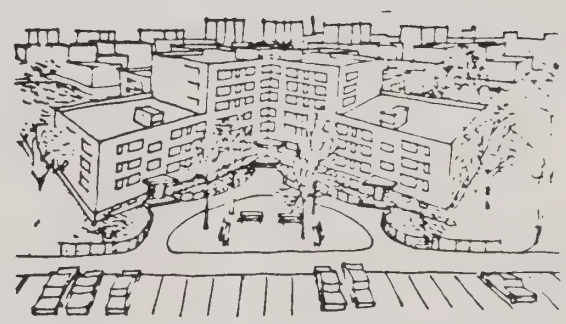
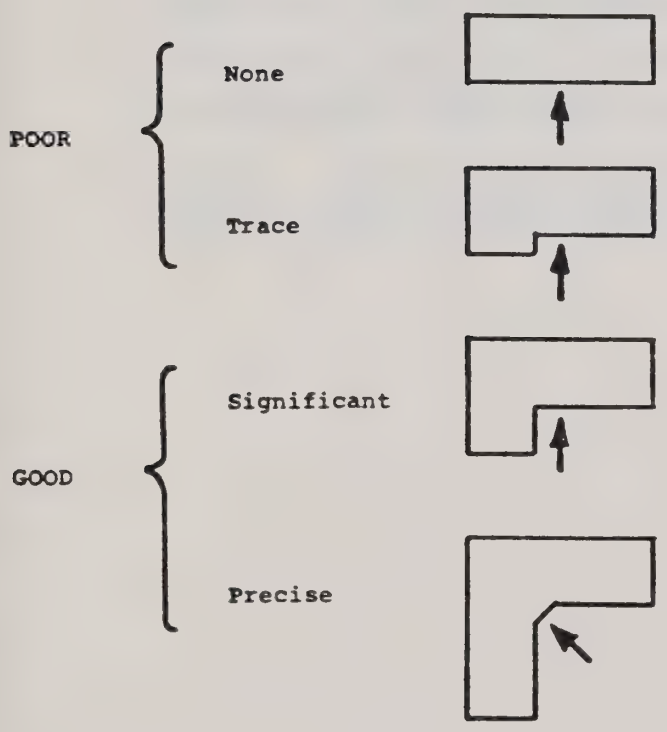


FIGURE 5. Definition of Entry Space as Formed by Shape of Building



**GENERAL PLAN
SCENIC
CORRIDOR
ELEMENT**

I. INTRODUCTION

Walnut Creek is fortunate to be a community with numerous outstanding topographical and scenic features. Situated at the western base of Contra Costa's largest mountain, local residents have the opportunity to view Mt. Diablo and the various ridges which penetrate into the urbanized areas of the City. Most of these distinctive natural areas are intended to be permanently preserved in their natural state through efforts made by the State of California, the East Bay Regional Park District, County Service Area R-8, or by private parties. In total, these ridge lands and other open areas represent a considerable public investment which should be protected and enhanced.

Purpose

The purpose of this Scenic Corridor Element of the General Plan is to designate certain streets and transportation corridors in the Walnut Creek Planning Area as scenic routes. Furthermore, this plan suggests various approaches for effectuating the proposed corridors.

An additional purpose of this element is to coordinate scenic route efforts with Caltrans, District 4, Contra Costa County, and plans of surrounding cities. As required by Section 65302(h) of the State Government Code, all city and county governments must adopt a "Scenic Highway Element" as an element of the General Plan.

Scenic Corridor Concept

The Scenic Corridor Element is one response to the increasing emphasis that City residents are placing on the quality of their environment. Particular recognition is given to the fact that many of the perceptions we have of our surroundings occurs while traveling. Although the predominant form of travel is via the private automobile, this plan recognizes that the auto is not the only form of travel that should be considered in a scenic corridor element. Mass transit routes, bikeways, and pedestrian walkways should also enjoy views and landscaping when feasible.

People often have an idealized picture of the term "scenic road". They may envision images of a pastoral, meandering roadway through the countryside, or a rocky rambling road through the mountains or along undeveloped shoreline. Many scenic routes do depend on natural landscapes for their aesthetic qualities and in the past many formally designated routes have been established in entirely rural areas, but neither natural beauty nor rural settings are needed for the designation of a "scenic corridor". Although it is not common for scenic roads to be found near or in developed areas, this is where a great need exists. Man made landscapes along urban streets can provide substantial scenic qualities.

II. SCENIC ROUTE PROGRAMS

State Scenic Highway Program

California, in 1963, adopted a State Scenic Highways Program. The intent of this action was to set up procedures where roads are designated as "official state scenic highways". This designation serves to recognize the scenic merits of a route as well as to help provide mechanisms for retaining the scenic qualities of that route. The master plan of State Highways Eligible for Designation as "Official State Scenic Highways" covered 6,406 miles of the 16,800 mile system in 1971.

By the nature and intent of this early legislation, the principle effort in obtaining "official state scenic highway designation" lies with the local governmental units. Administration and coordination of the program are the responsibility of the State Department of Public Works which has established scenic highway facility planning, design criteria, and standards with the advice of the State Scenic Highway Advisory Committee. The State's program is coordinated with the local efforts and one of the State's requirements is that a participating local governmental unit must adopt its own Scenic Highways Element and program of plan implementation.

State Route in Walnut Creek

Routes in Walnut Creek that are described in the "Master Plan of State Routes Eligible for Official Scenic Highway Designation" include portions of State 24 and Interstate 680. Map 1 shows the State highway system for Walnut Creek and adjacent communities.

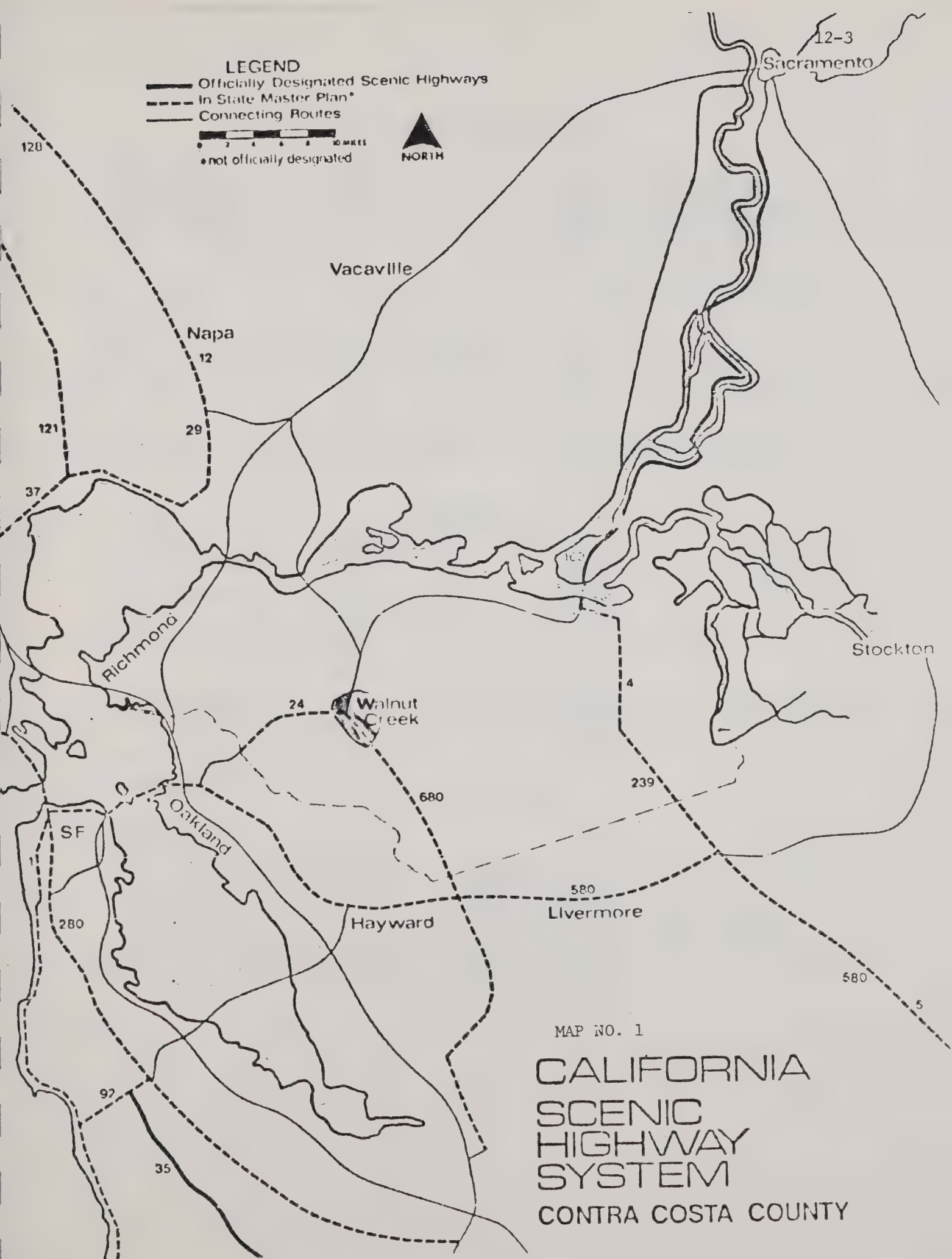
By adopting this element of the City General Plan, it will become policy for the City to request that the routes described below be added to the "Master Plan of State Routes Eligible for Official Scenic Highway Designation".

I-680

Legislation was passed during 1972 adding Interstate 680 to the "Master Plan" (AB 1306). Subsequently, the Board of Supervisors passed a resolution requesting that Caltrans, District 4 undertake a study of this route and develop a scenic highways report on it. Once this study begins, a major step toward establishing Interstate 680 as an officially designated scenic highway will have begun. This route connects with the major access points to Las Trampas Regional Wilderness Park and Mt. Diablo State Park. Highlights of the freeway include views of the Las Trampas Ridge and portions of the Mt. Diablo range. The portions of this freeway that transverse Walnut Creek also have views of local open space lands such as Shell Ridge, Sugarloaf Hill, and Acalanes Ridge.

State Route 24

The legislation that added a portion of Interstate 680 on the Master Plan also included this link. This route provides the major access points to Briones Regional Park and Lafayette Reservoir. It is one of the major corridors crossing a vast greenbelt area that extends along the spine of the Berkeley Hills, stretching along many of the East Bay Regional Park and EBMUD watersheds. This scenic corridor will have the diversity of developed areas



that are adjacent to major open areas, a mix that is not uncommon but rarely found with such picturesque contrast. The small portion of this route which runs through Walnut Creek's sphere of influence affords views of Mt. Diablo, Shell Ridge, Acalanes Ridge, and other scenery.

III. LOCAL SCENIC CORRIDORS

In addition to the roads that are designated for the State Scenic Highway System, several local transportation corridors are also intended to become some form of scenic route, even if not officially recognized by the State criteria.

The following City routes contain scenic qualities which should be preserved and enhanced. For convenience they have been separated into several categories:

SCENIC FREEWAYS

<u>CORRIDOR NAME</u>	<u>TERMINI</u>	<u>QUALITIES TO BE ENCOURAGED</u>
I-680	Livorna Rd. to "Y" Interchange	1. Views of Las Trampas Ridge, Sugarloaf Hill & Mt. Diablo 2. Landscaping along the freeway right of way
State Route 24	Planning Area Boundary to "Y" Interchange	1. Views of Acalanes Ridge, Shell Ridge, Mt. Diablo, & Las Trampas Ridge 2. Landscaping along the freeway

SCENIC THOROUGHFARES

<u>CORRIDOR NAME</u>	<u>TERMINI</u>	<u>QUALITIES TO BE ENCOURAGED</u>
BART Tracks	"Y" Interchange to entrance/exit of W.C. BART Station	View of Mt. Diablo
BART Tracks	N. Main Overpass to P.H. BART Station entrance/exit	View of Lime Ridge, Shell Ridge, Acalanes Ridge and Mt. Diablo
Bancroft	Treat-Ygnacio	35-Foot landscaping setback each side of the road
Civic Drive	YVR to Walden Rd.	Street trees

(Cont'd.)

SCENIC THOROUGHFARES (CONT'D)

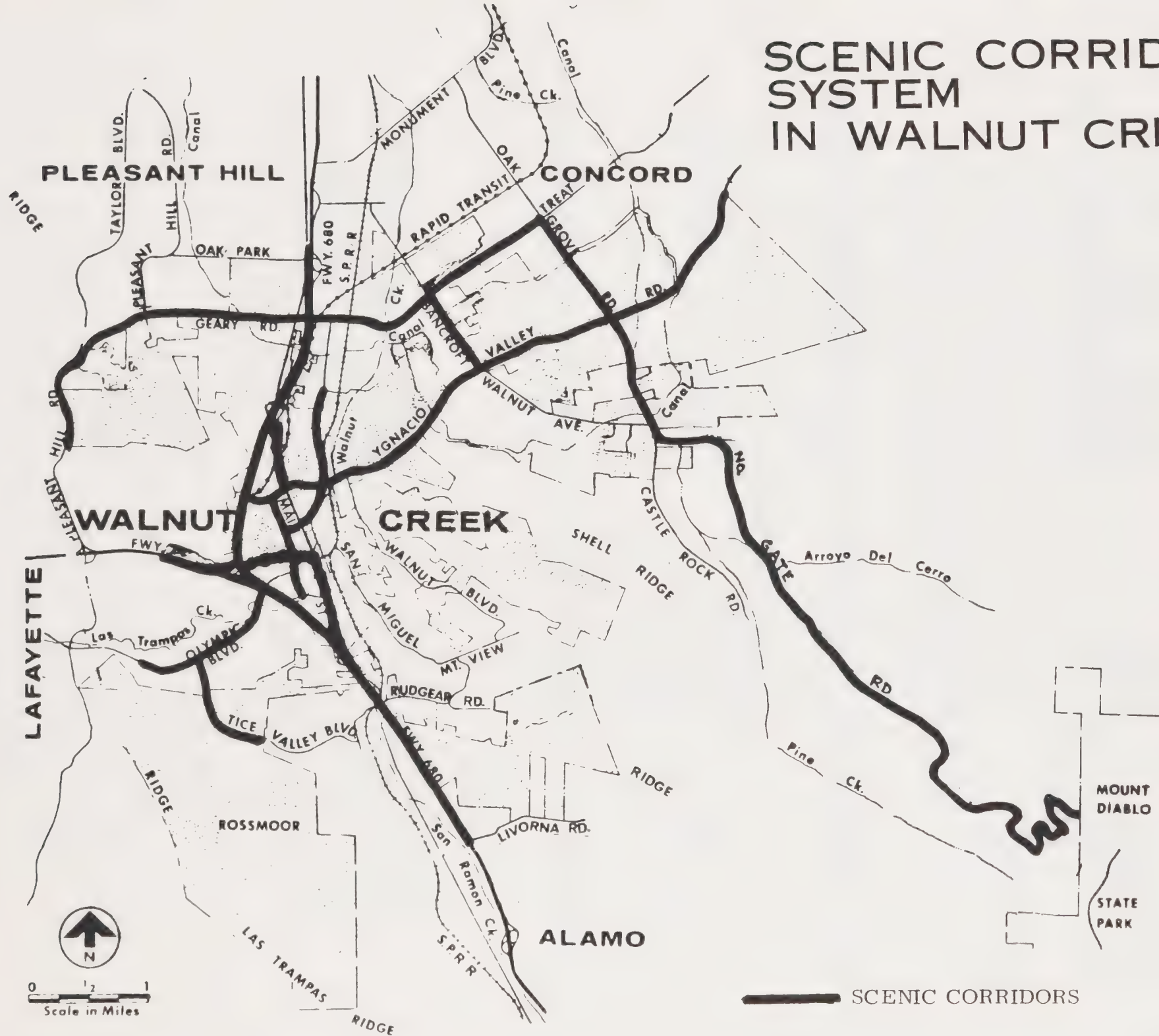
<u>CORRIDOR NAME</u>	<u>TERMINI</u>	<u>QUALITIES TO BE ENCOURAGED</u>
California Blvd.	N. Main-Newell	Landscaped median, street trees, and view of Las Trampas Ridge for south-bound traffic.
Oak Grove Road	Treat-North Gate	Street trees and landscaping
Olympic Blvd.	Planning Area Boundary to I-680	Street trees and landscaping
Treat Blvd.	I-680 to Oak Grove Road	Street trees and landscaping
Ygnacio Valley Road	I-680 to Concord City Limits	Street trees, landscaping, and views of Lime Ridge, Shell Ridge, and Mt. Diablo
Geary Road	Pleasant Hill Road to Main Street	Street trees
Tice Valley Blvd.	Olympic Blvd. to Rossmoor Parkway	Street trees and landscaped median
Pleasant Hill Road	Geary Road to Plan- ning Area Boundary	View of Acalanes Ridge
North Gate Road	Oak Grove Road to Mt. Diablo State Park	Landscaping and views of Mt. Diablo, Lime Ridge and Shell Ridge

IV. IMPLEMENTATION

State Route

This Scenic Corridor Element is the initial step leading toward official designation of routes as scenic highways. As such the element provides the basis for the preparation of specific scenic corridor plans. This element is not a scenic highway corridor study, but rather provides the basis for scenic corridor studies by the Department of Transportation, District 4, Contra Costa County.

SCENIC CORRIDOR SYSTEM IN WALNUT CREEK



SCENIC CORRIDORS

Local Routes

If the local scenic corridors identified on the preceeding pages are to be implemented, the City will enact measures to provide landscaping of routes where identified and maintain view corridors where appropriate. It is the City's intention within the City's financial capability to finance these routes as provided herein.

Provisions for landscaping can be done through off-site improvement requirements, the Capital Improvement Program, and in some areas through the use of local improvement districts. Landscaping streetways will require a long-term commitment by the City and County to improve and maintain these routes. All or portions of these routes have already been landscaped and are now being maintained by the appropriate jurisdiction.

Scenic corridors with view qualities will generally be implemented through the use of various regulatory measures. In residential areas, such as along Ygnacio Valley Road or Pleasant Hill Road, these views are already protected by setbacks and height limits identified in the residential zoning districts. Where view corridors exist in the downtown, such as along the BART route, height limit regulations and policies formulated in the Core Area Plan should be followed. Although the goal of this plan is to maintain scenic qualities, this can be accomplished only to the extent that it is possible to do so within the framework of the land use element of the General Plan.

GENERAL PLAN APPENDICES

APPENDIX 1
ILLUSTRATIVE DEVELOPMENT DIAGRAMS
Comparison of Conventional & Cluster Development

INTRODUCTION

In their adoption of the Walnut Creek General Plan, the Planning Commission and the City Council supported the use of the cluster development concept in both hill areas and flat lands where significant amounts of natural open space could be preserved, where a comprehensive open space system could be provided, where private and/or public recreation facilities could be included, and where a variety of dwelling types and/or price ranges could be achieved.

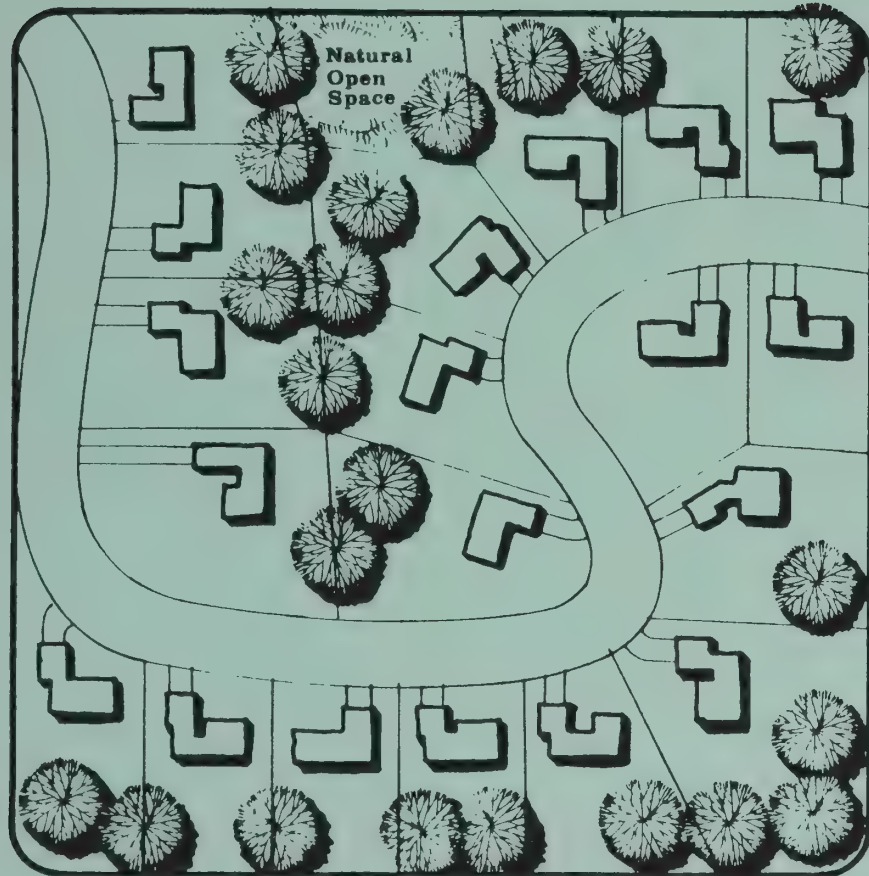
The following eight diagrams are intended to provide illustrations of ways in which the cluster concept can be applied in each of the eight dwelling unit and population density ranges. They also provide a comparison with conventional development at similar densities in terms of public road and common open space acreage, numbers of dwelling units, dwelling unit density and population density.

Inclusion of this comparison in the General Plan is not intended to imply that all new residential development in Walnut Creek will be based on the cluster concept; rather that, in many cases where there are significant hill areas, tree cover, creekways, and rock outcroppings to be preserved, and varied housing needs to be met, the cluster concept provides a reasonable solution with favorable consequences compared to conventional development.

The eight cluster alternatives range from grouping of detached single family homes on smaller individual lots in the open single family category, to zero-side yard solutions where the homes are still detached yet placed on one-side yard property line to provide more usable yard space and privacy, to attached dwelling units where large amounts of natural open space is retained, up to the high rise multiple family cluster of dwelling units in towers over covered parking and plazas adjacent to BART stations. There are many other cluster development design alternatives, and the following illustrative diagrams provide but one example for each density range.

LOW SINGLE FAMILY

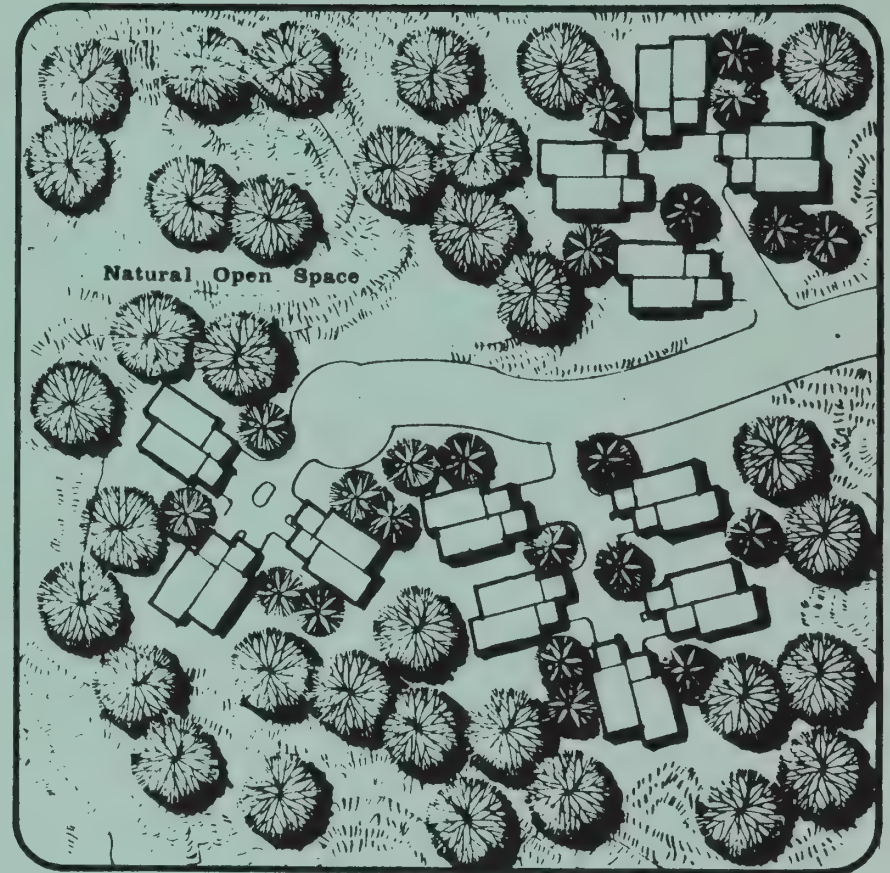
D.U.S /AC. 1.0-2.5
POP. /AC. 5 - 10



CONVENTIONAL

Total acres	10.0
Public roads	1.5 ac
Common open space	.3 ac

Total D.U.s	19
D.U.s/gross ac.	1.9
Pop./gross ac.	8.0



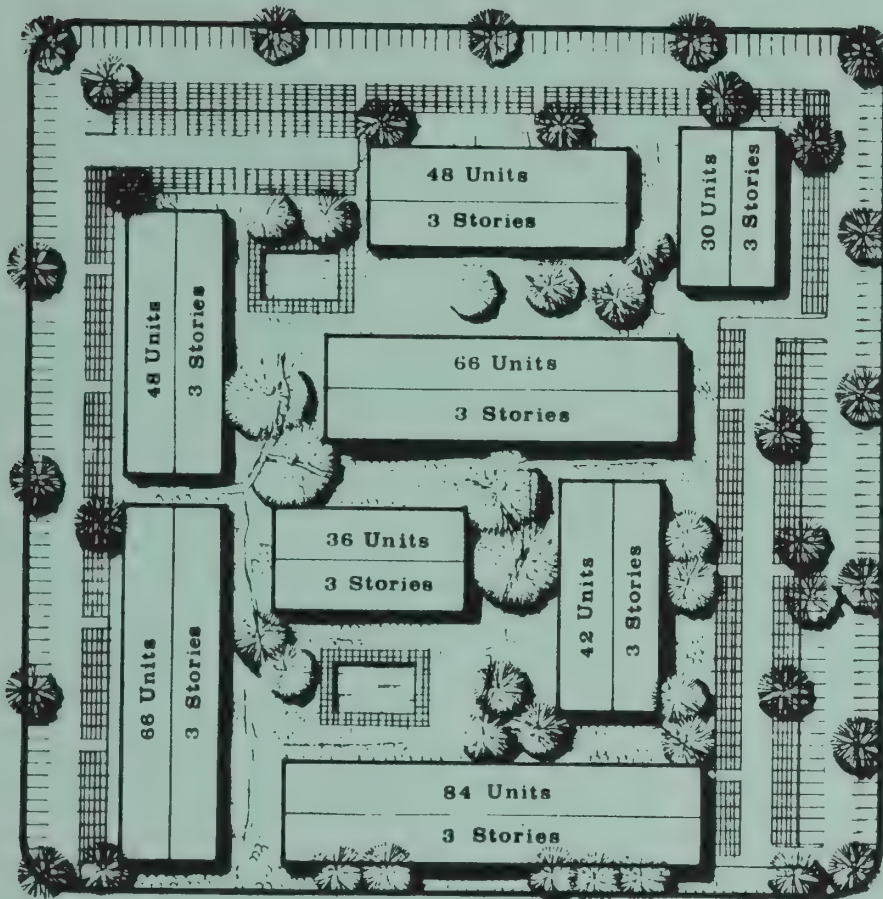
CLUSTER

Total acres	10.0
Public roads	.5 ac
Common open space	8.5 ac

Total D.U.s	24
D.U.s/gross ac.	2.4
Pop./gross ac.	6.0

HIGH RISE MULTIPLE FAMILY

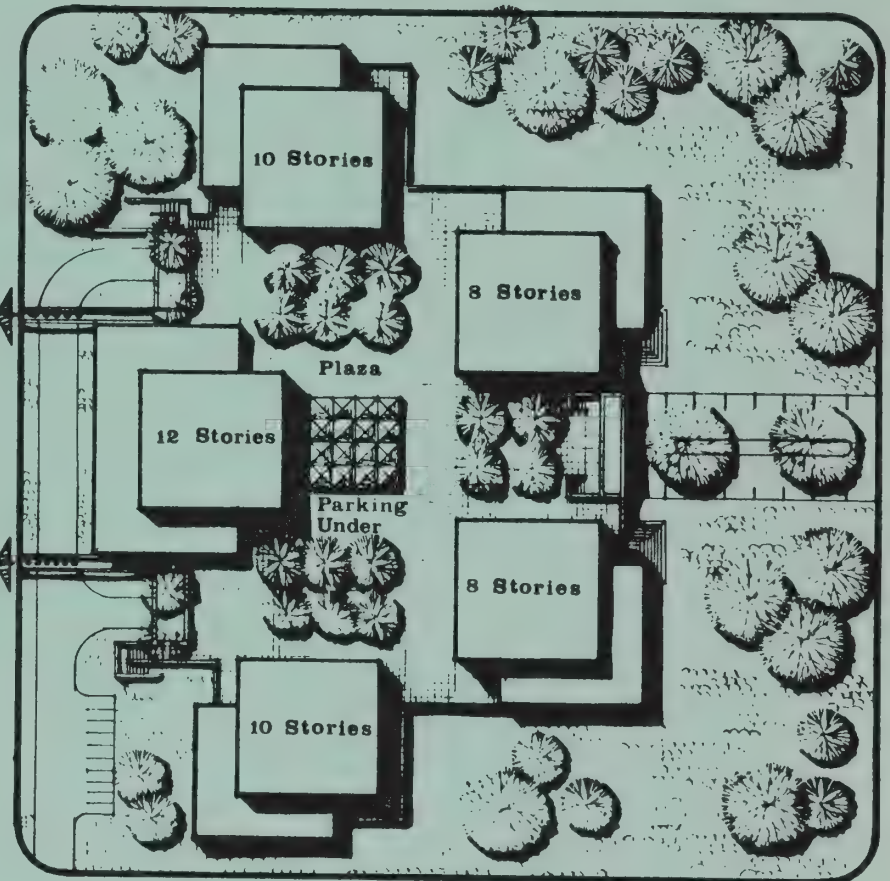
D.U.S./AC. 30-50
POP./AC. 50-100



CONVENTIONAL

Total acres	10.0
Public roads	0.0 ac
Common open space	3.0 ac

Total D.U.s	420
D.U.s/gross ac.	42.0
Pop./gross ac.	80.0



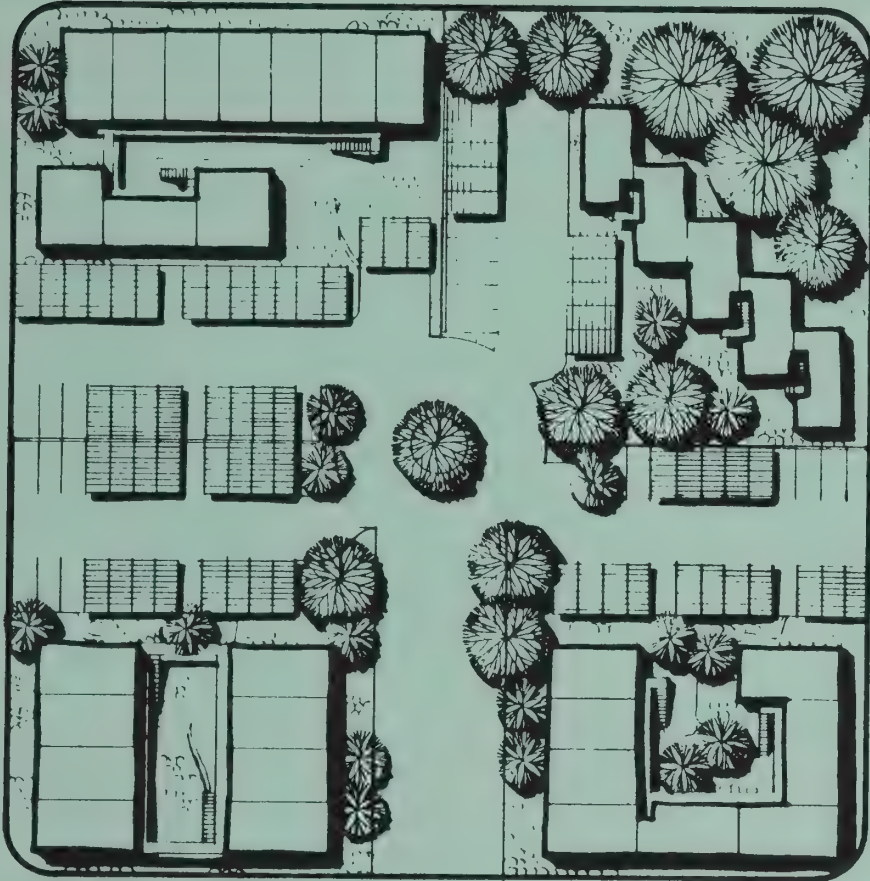
CLUSTER

Total acres	10.0
Public roads	0.0 ac
Common open space	7.0 ac

Total D.U.s	500
D.U.s/gross ac.	50.0
Pop./gross ac.	80.0

HIGH MULTIPLE FAMILY

D.U.S /AC. 22-30
POP. /AC. 40-60

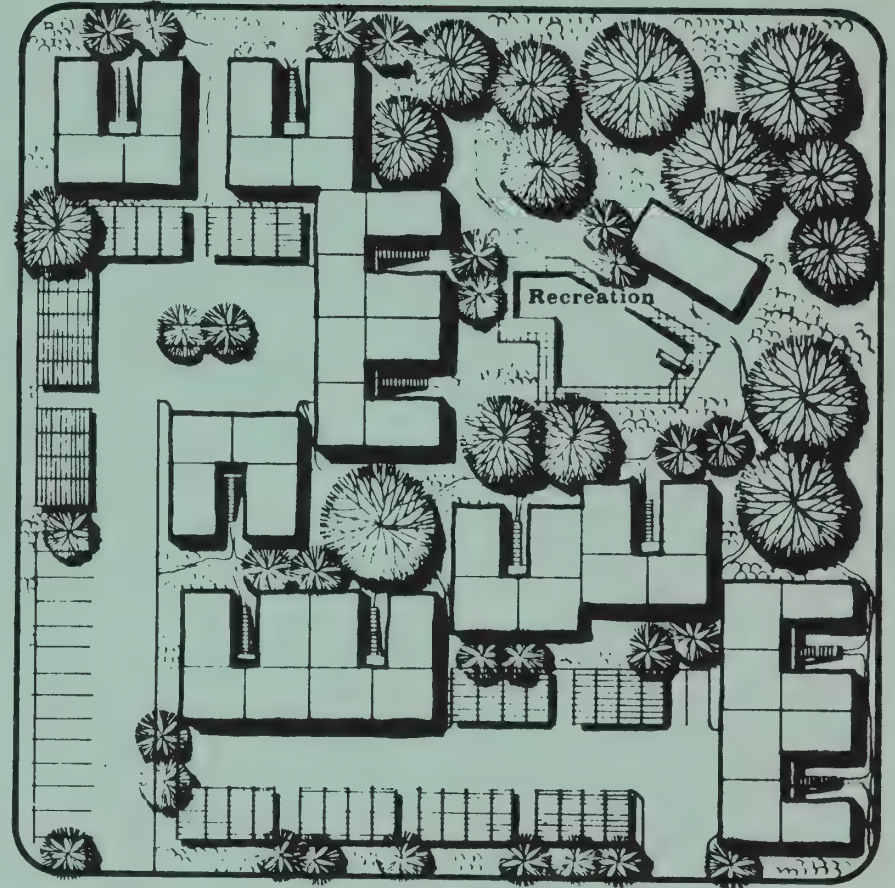


CONVENTIONAL

2 STORIES

Total acres	2.5
Public roads	.3 ac
Common open space	1.0 ac

Total D.U.s	62
D.U.s/gross ac.	25.0
Pop./gross ac.	48.0



CLUSTER

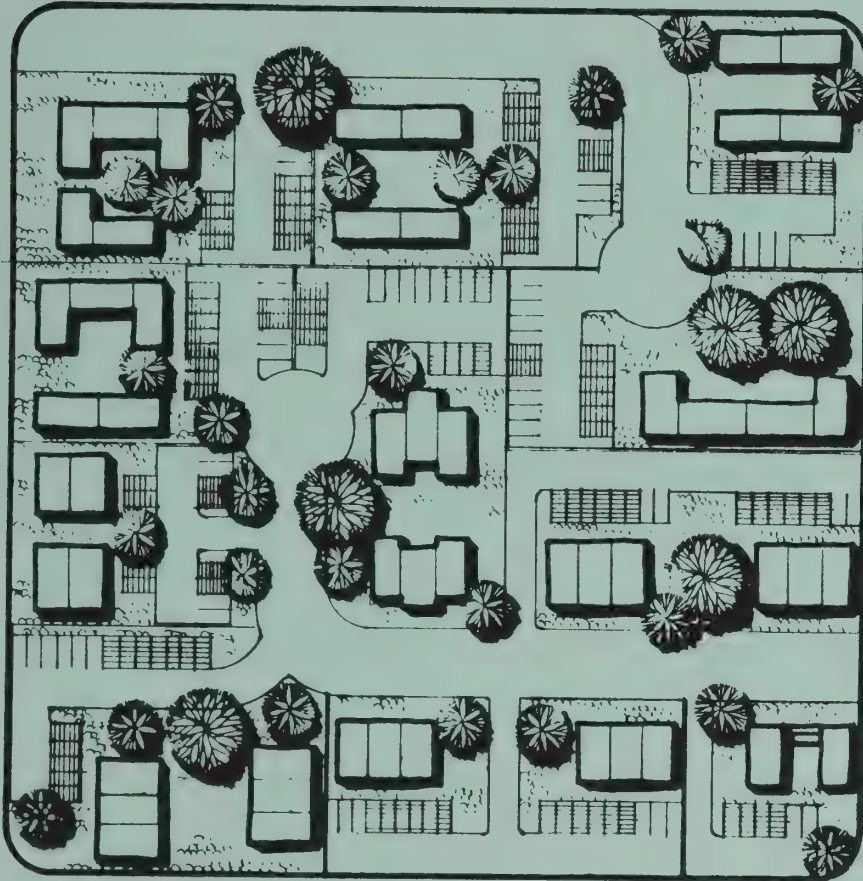
2 STORIES

Total acres	2.5
Public roads	.0 ac
Common open space	1.3 ac

Total D.U.s	66
D.U.s/gross ac.	26.0
Pop./gross ac.	50.0

MEDIUM MULTIPLE FAMILY

D.U.S./AC. 12-22
POP./AC. 25-45

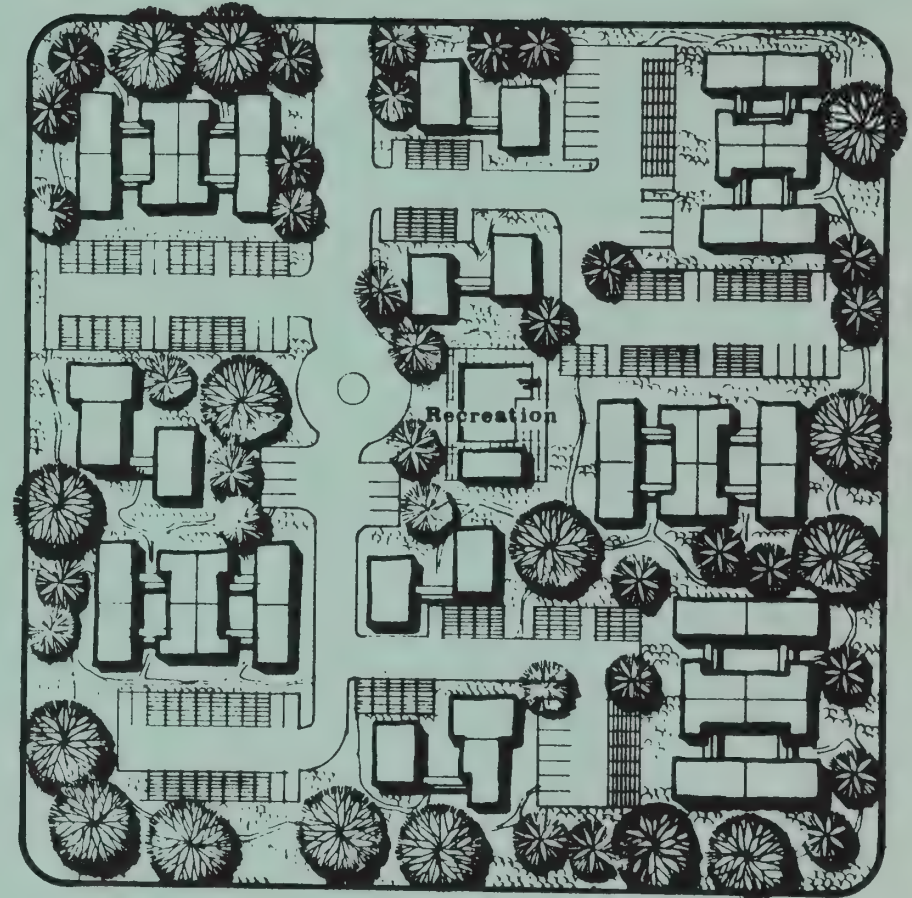


CONVENTIONAL

2 STORIES

Total acres	6.5
Public roads	1.0 ac
Common open space	.5 ac

Total D.U.s	104
D.U.s/gross ac.	16.0
Pop./gross ac.	33.0



CLUSTER

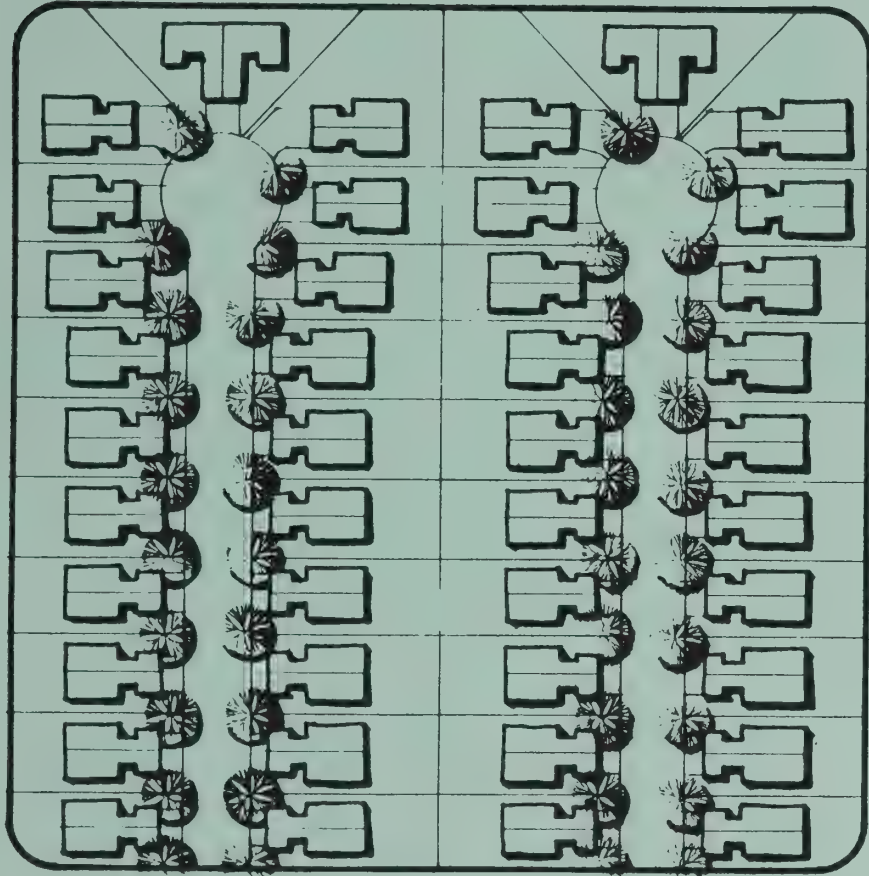
2 STORIES

Total acres	6.5
Public roads	.3 ac
Common open space	3.6 ac

Total D.U.s	104
D.U.s/gross ac.	16.0
Pop./gross ac.	33.0

LOW MULTIPLE FAMILY

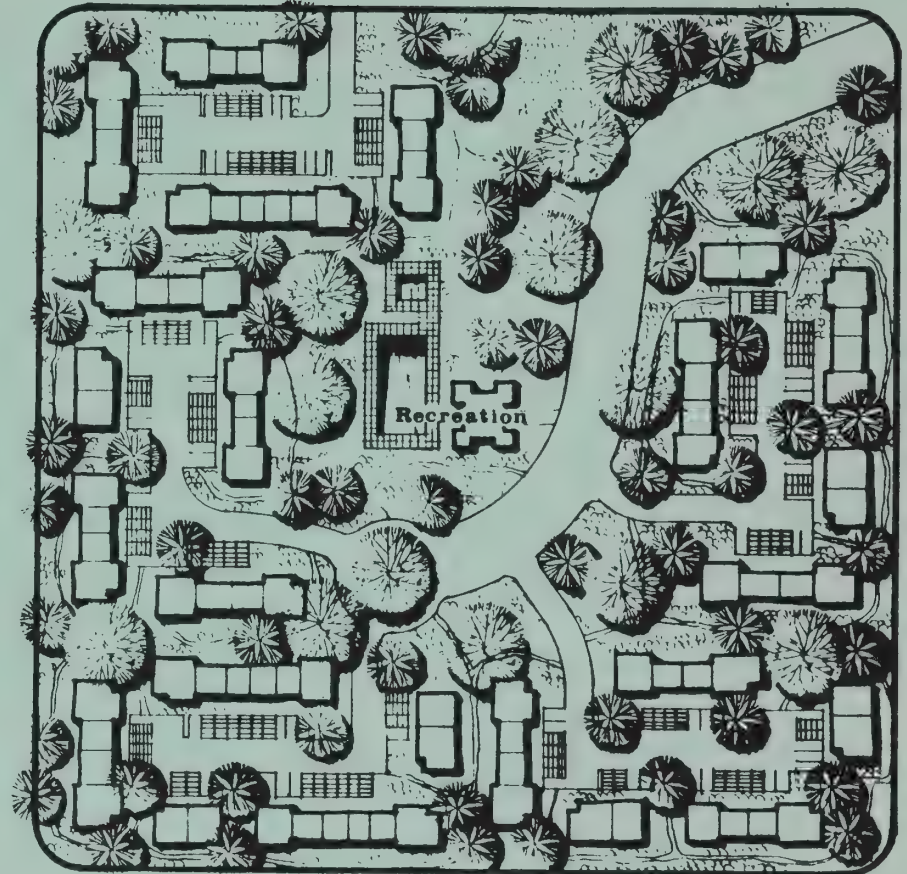
D.U.S / AC. 7-12
POP. / AC. 20-30



CONVENTIONAL DUPLEX UNITS

Total acres	10.0
Public roads	1.4 ac
Common open space	0.0 ac

Total D.U.s	84
D.U.s/gross ac.	8.4
Pop./gross ac.	25.0



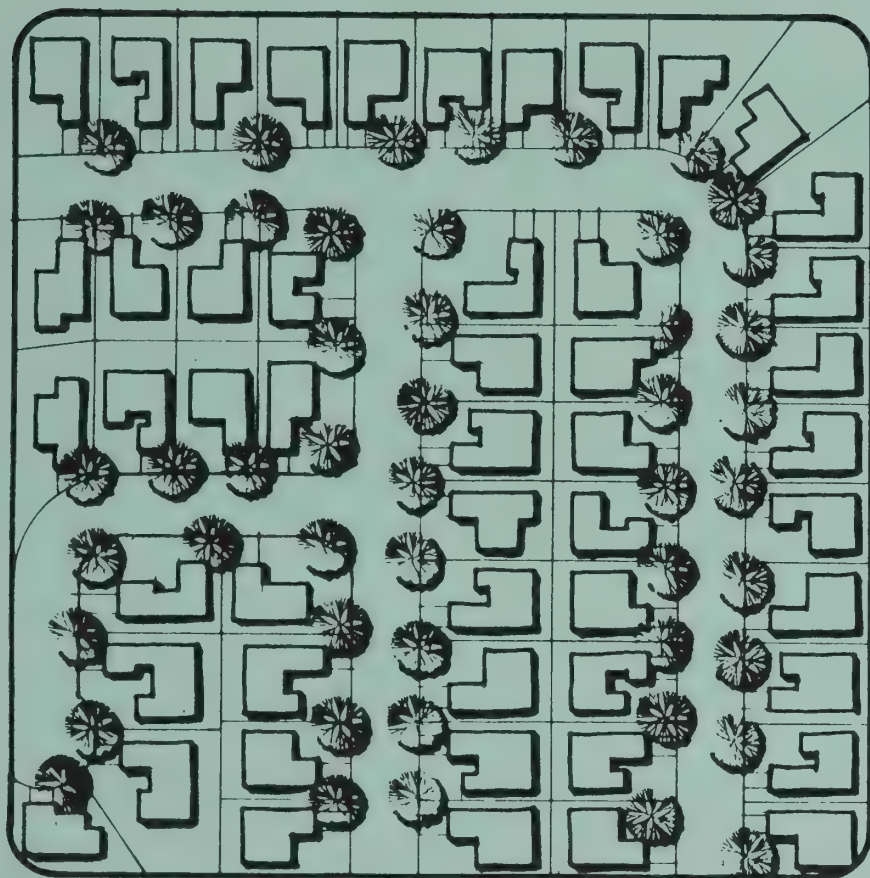
CLUSTER

Total acres	10.0
Public roads	0.8 ac
Common open space	6.7 ac

Total D.U.s	88
D.U.s/gross ac.	8.8
Pop./gross ac.	20.0

HIGH SINGLE FAMILY

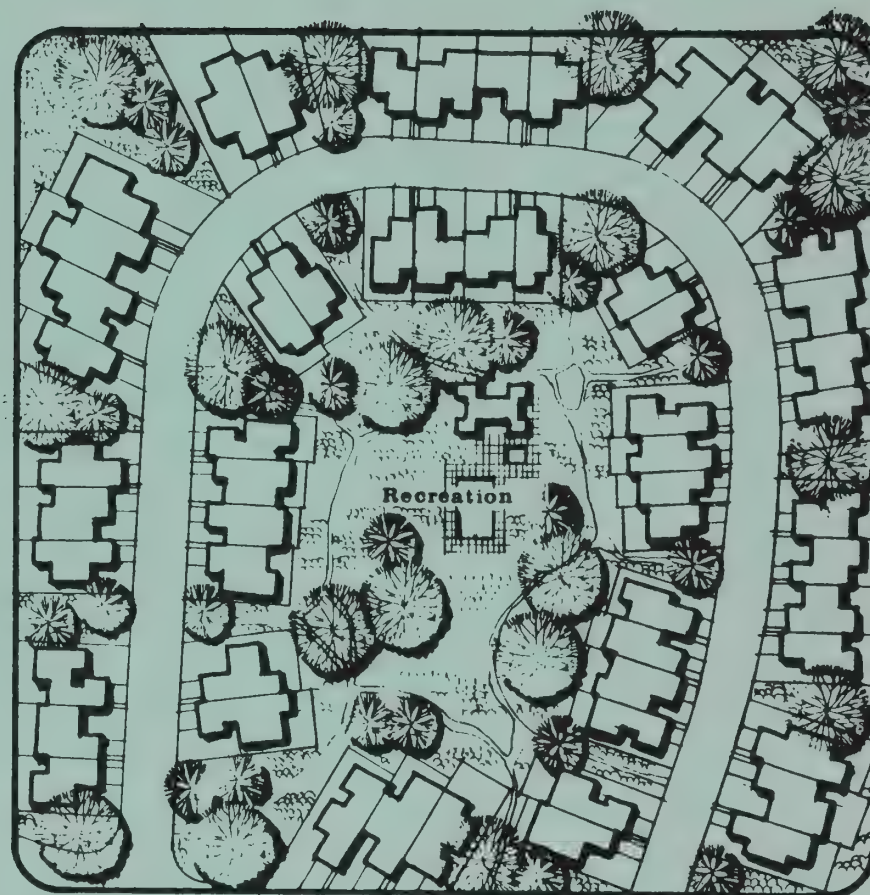
D.U.S./AC. 4-7
POP./AC. 15-20



CONVENTIONAL

Total acres	10.0
Public roads	2.2 ac
Common open space	0.0 ac

Total D.U.s	51
D.U.s/gross ac.	5.1
Pop./gross ac.	20.0



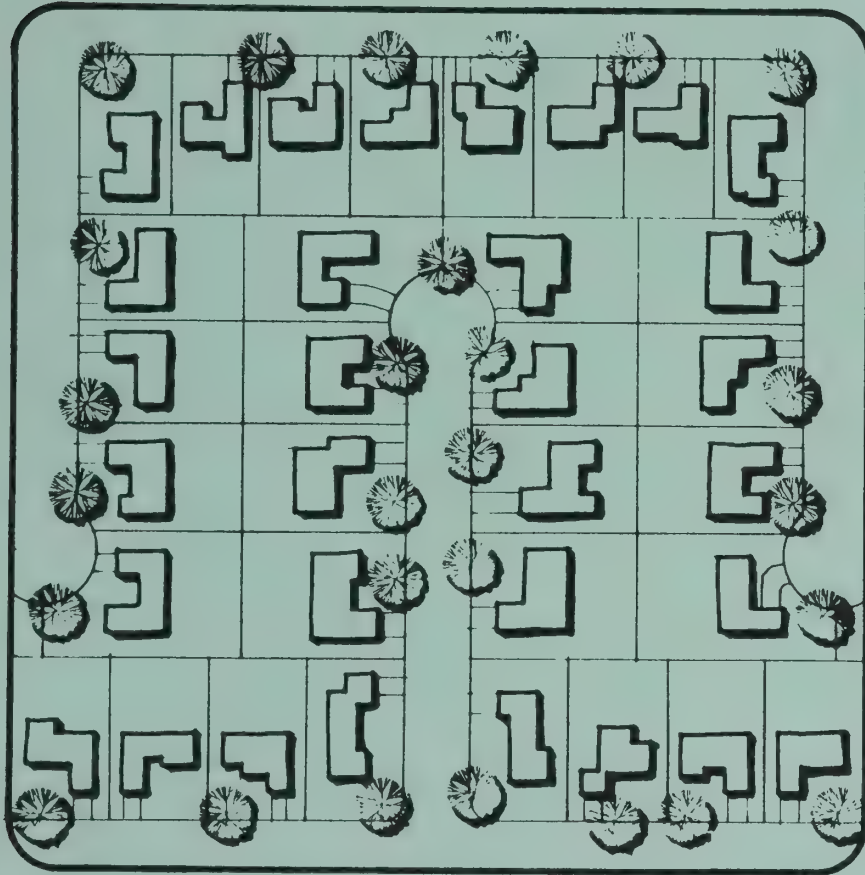
CLUSTER

Total acres	10.0
Public roads	1.3 ac
Common open space	4.0 ac

Total D.U.s	57
D.U.s/gross ac.	5.7
Pop./gross ac.	14.0

MEDIUM SINGLE FAMILY

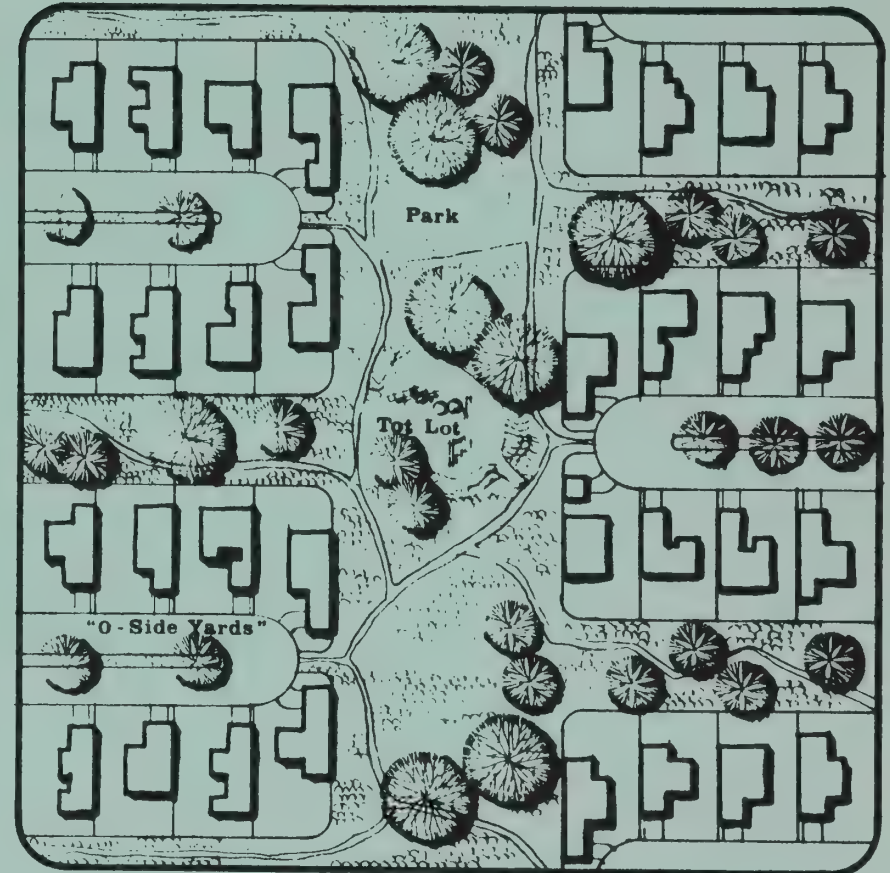
D.U.S/AC. 2.5 - 4.0
POP./AC. 10 - 15



CONVENTIONAL

Total acres	10.0
Public roads	2.5 ac
Common open space	0.0 ac

Total D.U.s	32
D.U.s/gross ac.	3.2
Pop./gross ac.	13.0



CLUSTER

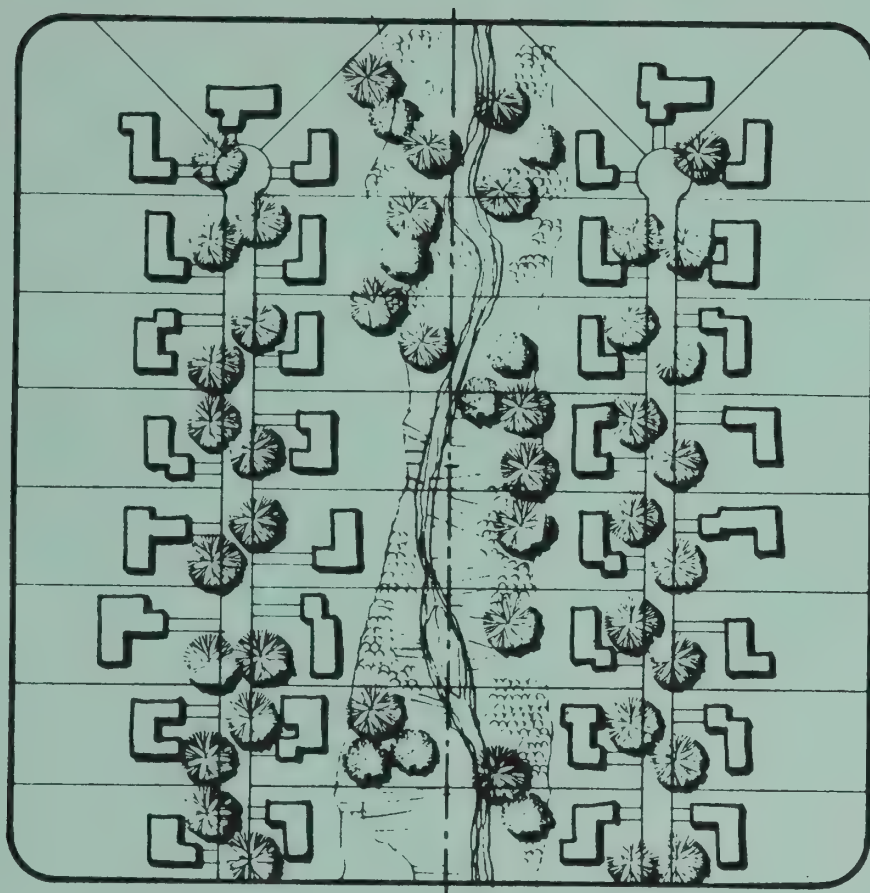
ZERO SIDE YARDS

Total acres	10.0
Public roads	1.1 ac
Common open space	4.2 ac

Total D.U.s	32
D.U.s/gross ac.	3.2
Pop./gross ac.	13.0

OPEN SINGLE FAMILY

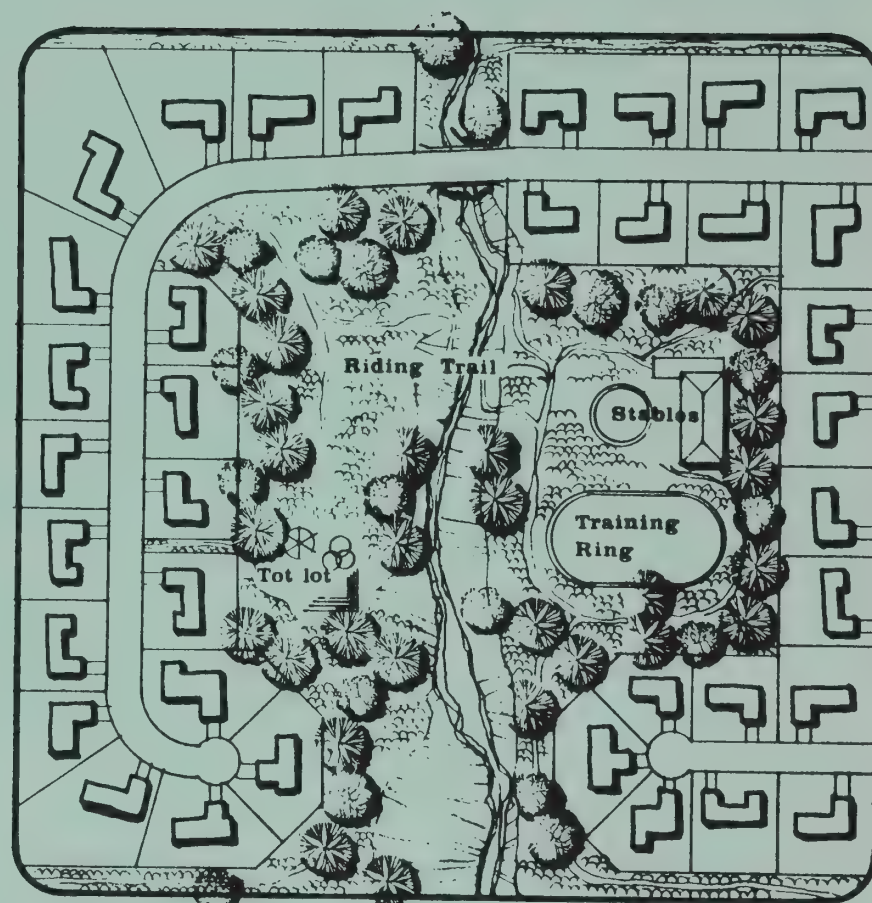
D.U.S /AC. 0 - 1
POP. /AC. 0 - 5



CONVENTIONAL

Total acres	40.0
Public roads	2.6 ac
Common open space	0.0 ac

Total D.U.s	34
D.U.s/gross ac.	.85
Pop./gross ac.	4.0



CLUSTER

Total acres	40.0
Public roads	2.4 ac
Common open space	21.4 ac

Total D.U.s	37
D.U.s/gross ac.	.97
Pop./gross ac.	4.0

APPENDIX 2
GENERAL PLAN LAND USE
Acreage & Percentage by Statistical Area
Design Capacity

CATEGORY	SA 1		SA 2		SA 3		SA 4		SA 5		SA 6		SA 7		TOTAL	
RESIDENTIAL	Ac	%	Ac	%	Ac	%	Ac	%	Ac	%	Ac	%	Ac	%	Ac	%
Open Single Family					21						343		302		666	
Low Density Single Family			2670	-	864		487		155		874		200		5250	
Medium Density Single Family			180		696		888		952		1772				4488	
High Density Single Family			79		1050		93		70						1292	
Low Density Multiple Family			50		12		32		170						264	
Medium Density Multiple Family			15		51		130		107		14				317	
High Density Multiple Family			57		14		35		53						159	
High Rise Density Multiple Family	248														248	
TOTAL	248	29	3051	75	2708	64	1665	65	1507	59	3003	70	502	11	12684	55
COMMERCIAL																
Central	154														154	
General	30						33								63	
Service	81						63								144	
Shopping Center	6		6		39		13		12		21				97	
Office	81		22		10				25		33				171	
Research & Development									280						280	
TOTAL	352	41	28	1	49	1	109	4	317	12	54	1	0	0	909	4
COMMUNITY FACILITIES																
SCHOOLS																
Elementary			72		32		34		58		54		10		260	
Intermediate			15		9		12		24		20				80	
High	24				51		29		41		40				185	
Private									39						39	
PARKS & RECREATION																
Neighborhood	9		9		10						9				37	
Community - Citywide			10		10		12		75		10				117	
Regional													440		440	
Golf Course					135				67		159				361	
OTHER	42				13				7		4				66	
UTILITIES	15				46		112		132		33				338	
TOTAL	90	10	106	2	306	7	199	9	443	18	329	8	450	10	1923	9
OPEN SPACE																
Open Preserve			800		981		384		120		790		3500		6575	
TOTAL			800	19	981	22	384	15	120	5	790	19	3500	79	6575	28
CIRCULATION																
Freeway	66		46		111		135		43						401	
Expressway	49		11		12				30		25				127	
Arterial	31		57		86		47		73		59		28		381	
Rapid Transit Line	8						6		6						20	
Railroad	16		11		17				6						50	
TOTAL	170	20	125	3	226	6	188	7	158	6	84	2	28	NEG	979	4
TOTAL PLANNING AREA	860	100	4110	100	4270	100	2545	100	2545	100	4260	100	4480	100	23070	100

APPENDIX 3
GENERAL PLAN DWELLING UNITS AND POPULATION
BY DWELLING TYPE AND STATISTICAL AREA (SA) DESIGN CAPACITY

<u>SA</u>	<u>DWELLING TYPE</u>	<u>DWELLING (a) UNITS (DU's)</u>	<u>PERSONS/DU RANGE</u>	<u>DESIGN CAPACITY (b)</u>
1	Multiple Family	7,000	1.7 - 1.9	11,900 - 13,300
2	Detached Single Family	4,100	3.4 - 3.6	13,900 - 14,700
	Cluster Single Family	3,800	2.4 - 2.6	9,100 - 9,900
	Multiple Family	2,200	2.0 - 2.2	4,400 - 4,800
				27,400 - 29,400
3	Detached Single Family	3,350	3.4 - 3.6	11,400 - 12,100
	Rossmoor	10,000	1.6 - 1.8	16,000 - 18,000
	Multiple Family	1,200	2.0 - 2.2	2,400 - 2,600
	Attached Single Family	400	2.4 - 2.6	900 - 1,100
				30,700 - 33,800
4	Detached Single Family	3,350	3.4 - 3.6	11,400 - 12,100
	Multiple Family	3,000	2.0 - 2.2	6,000 - 6,600
	Attached Single Family	900	2.4 - 2.6	2,200 - 2,300
				19,600 - 21,000
5	Detached Single Family	3,800	3.5 - 3.7	13,300 - 14,100
	Attached Single Family	1,200	2.4 - 2.6	2,900 - 3,100
	Multiple Family	3,500	2.1 - 2.3	7,300 - 8,000
				23,500 - 25,200
6	Detached Single Family	4,000	3.5 - 3.7	13,900 - 14,700
	Attached Single Family	2,700	2.4 - 2.6	6,500 - 7,000
	Multiple Family	250	2.1 - 2.3	500 - 600
				20,900 - 22,300
7	Detached Single Family	1,000	3.5 - 3.7	3,500 - 3,700
	Attached Single Family	1,000	2.4 - 2.6	2,400 - 2,600
				5,900 - 6,300
TOTAL PLANNING AREA		56,750		139,900 - 151,300
			ROUNDED	140,000 - 151,000
	Detached Single Family	34%	19,600	
	Attached Single Family	18%	10,000	
	Rossmoor	18%	10,000	
	Multiple Family	30%	17,150	
		100%	56,750	

(a) Dwelling units rounded to nearest 50.

(b) Design capacity is the design limit of General Plan that may be approached during the planning period but would not be expected to be reached. All numbers are rounded to nearest 100.

APPENDIX 4

HOUSING & POPULATION ESTIMATES & PROJECTIONS BY ONE & TWO YEAR TIME SUBPERIODS, 1960-1990

	DWELLING TYPE																		POP. INCREASE		
TIME PERIODS	DETACHED SINGLE FAMILY <u>a/</u>				ATTACHED SINGLE FAMILY <u>d/</u>				MULTIPLE-FAMILY <u>b/</u>				ROSSMOOR				TOTAL			%	No.
	No.DU's*	V%*	P/DU*	POP.	No.DU's	V%	P/DU	POP.	No.DU's	V%	P/DU	POP.	No.DU's	V%	P/DU	POP.	No.DU's	P/DU	POP.		
1960	9,830	5	3.8	33,600					630	5	2.0	1,200					10,460	3.4	34,800		
1960-62	710								710												
62-64	1,160								1,080											85	29,700
64-66	1,550								1,030				2,245								
66-68	1,100								260				585								
68-70	800				80				630				630								
1970	14,720 <u>c/</u>	3	3.5	50,000	80	3	2.6	200	4,430	3	2.0	8,600	3,460	3	1.7	5,700	22,690	2.8	64,500		
1970-72	480				350				1,770				390								
72-74	500				600				800				650							23	14,900
74-75	250				320				350				350								
1974	15,950	3	3.5	54,100	1,350	3	2.5	3,300	7,350	5	2.0	14,000	4,850	3	1.7	8,000	29,500	2.7	79,400		
1975-76	250				350				350				350								
76-78	400				600				800				700							18	13,900
78-80	400				600				350				700								
1980	17,000	3	3.5	57,700	2,900	3	2.5	7,000	9,300	5	2.0	17,700	6,600	3	1.7	10,900	35,800	2.6	93,300		
1980-82	300				700				700				700								
82-84	300				700				600				700								
84-86	200				700				600				700							24	22,500
86-88	100				600				500				700								
88-90	100				600				500				600								
1990	18,000	3	3.5	61,100	6,200	3	2.5	15,000	12,200	5	2.0	23,200	10,000	3	1.7	16,500	46,400	2.4	115,800	233	81,000

*No. DU's = Number of dwelling units

*P/DU = Persons per occupied dwelling unit

*V% = Vacancy factor

a/ Includes detached dwelling units of density ranging up to 4 dwelling units per acre.

b/ Includes all dwelling units having an average density of 7 dwelling units per acre or more except Rossmoor.

c/ 430 single family dwelling units removed from inventory in 1960-70 deducted in total.

d/ Includes single family attached residential development with an average density ranging up to 7 DU's/Ac.

Sources: Building Construction Activity Study, Basic Data Report, and Walnut Creek Planning Department projections.

APPENDIX 5-a
GENERAL PLAN DEVELOPMENT IMPLICATIONS
DWELLING TYPE, DWELLING UNITS, POPULATION
BY STATISTICAL AREA - 1970, 1975, 1980, 1990

TIME PERIOD	DWELLING TYPE																TOTAL		
	DETACHED SINGLE FAMILY					ATTACHED SINGLE FAMILY				MULTIPLE FAMILY				ROSSMOOR					
	SA	(f) DU's	P/DU	V	POP	DU's	P/DU	V	POP	DU's	P/DU	V	POP	DU's	P/DU	V	POP	DU's	(e) POP
1970	1	460	3.0		1,340					1,860	1.8		3,520					2,320	4,860
	2	2,770	3.5		9,670	80	2.6		200	990	2.1		1,880					3,840	11,750
	3	2,930	3.4		9,660					300	2.1		570	3,460	1.7		5,700	6,690	15,930
	4	3,020	3.4		9,960					570	2.1		1,100					3,590	11,060
	5	3,260	3.6		11,380					500	2.2		1,050					3,760	12,430
	6	2,260	3.7		8,100					210	2.3		460					2,470	8,560
	7	20	3.5		70													20	70
SUB TOT		14,720		3	50,180	80		3	200	4,430		5	8,580	3,460		3	5,700	22,690	64,660
1975	1	460	3.0		1,340					2,810	1.8		4,800					3,270	6,140
	2	3,040	3.5		10,320	550	2.5		1,340	1,030	2.1		2,040					4,620	13,700
	3	2,950	3.4		9,720	250	2.5		600	400	2.1		800	4,850	1.7		8,000	8,450	19,120
	4	3,070	3.4		10,130	190	2.5		450	650	2.1		1,300					3,910	11,880
	5	3,600	3.6		12,560	270	2.5		650	1,430	2.3		3,130					5,300	16,340
	6	2,810	3.7		10,060	90	2.5		220	210	2.3		460					3,110	10,740
	7	20	3.5		70													20	70
SUB TOT		15,950		3	54,200	1,350		3	3,260	6,540		5	12,530	4,850		3	8,000	28,680	77,990
1980	1	460	2.9		1,300					3,900	1.8		6,660					4,360	7,960
	2	3,310	3.5		11,230	1,450	2.5		3,500	1,300	2.1		2,600					6,060	17,330
	3	2,970	3.4		9,790	350	2.5		840	500	2.1		1,040	6,600			10,900	10,420	22,570
	4	3,120	3.4		10,300	290	2.5		720	800	2.1		1,550					4,210	12,590
	5	3,700	3.6		12,920	400	2.5		1,010	2,590	2.3		5,660					6,690	19,590
	6	3,420	3.7		12,210	410	2.5		1,020	210	2.3		460					4,040	13,690
	7	20	3.5		70													20	70
SUB TOT		17,000		3	57,820	2,900		3	7,090	9,300		5	17,970	6,600		3	10,900	35,800	93,780
1990	1	120	2.9		350					5,720	1.8		9,810					5,840	10,160
	2	3,630	3.5		12,250	2,750	2.5		6,650	1,500	2.1		2,990					7,880	21,890
	3	3,010	3.4		9,930	350	2.5		840	600	2.1		1,200	10,000			16,500	13,960	28,470
	4	3,370	3.4		11,080	730	2.5		1,850	1,170	2.1		2,330					5,270	15,260
	5	4,030	3.6		14,070	990	2.5		2,400	3,000	2.3		6,560					8,020	23,030
	6	3,770	3.6		13,140	1,380	2.5		3,360	210	2.3		460					5,360	16,960
	7	70	3.5		230													70	230
TOTAL		18,000		3	61,050	6,200		3	15,100	12,200		5	23,350	10,000		3	16,500	46,400	116,000

Footnotes: Shown on page following Table 5-A-b

APPENDIX 5-b
GENERAL PLAN DEVELOPMENT IMPLICATIONS
SCHOOL ENROLLMENT, SHOPPING CENTER ACREAGE, AND PARK & PLAYGROUND ACREAGE
BY STATISTICAL AREA - 1970, 1975, 1980, 1990

TIME PERIOD	ESTIMATED SCHOOL ENROLLMENT BY DWELLING TYPE (a)											MULTIPLE FAMILY		SHOPPING CENTER		PUBLIC PARK LAND YIELD(c)		
	DETACHED SINGLE FAMILY						ATTACHED SINGLE FAMILY					FAMILY				PARK	PLAY	(x) + v/2
	SA	E/DU(b)	POP	I/DU	POP	H/DU	POP	E/DU	POP	H/DU	POP	E/DU	POP	ACRES	AC/1000 POP(d)	ACRES	ACRES	AC/1000 POP
1970	1	.20	70	.10	50	neg	-	neg	-	neg	-	neg	-	14	2.9	11	-	2.2
	2	.57	1,580	.20	550	.33	920	.25	20	.10	10	neg	-	-	-	-	30	1.3
	3	.45	1,320	.20	590	.25	730	.25	-	.10	-	neg	-	18	0.9	-	33	1.0
	4	.50	1,500	.18	540	.25	750	.25	-	.10	-	neg	-	17	1.5	12	23	2.1
	5	.62	2,020	.21	680	.30	970	.25	-	.10	-	.10	50	12	1.0	10(h)	40	2.4
	6	.88	1,990	.25	560	.30	670	.25	-	.10	-	.10	20	21	2.5	8	23	2.2
	7	.60	10	neg	-	neg	-	neg	-	neg	-	neg	-	-	-	-	-	-
SUB TOT			8,490		2,970		4,040		20		10		70	82	1.2	41	149	1.8
1975	1	.20	70	.10	50	neg	-	neg	-	-	-	-	-	15	2.4	7	-	1.1
	2	.55	1,670	.20	610	.30	910	.25	140	-	70	-	-	6	0.4	10	30	1.8
	3	.45	1,330	.20	590	.25	740	.25	60	-	20	-	-	20	1.0	10	33	1.4
	4	.50	1,530	.18	550	.25	760	.25	50	-	20	-	-	17	1.4	13	23	2.1
	5	.65	2,340	.21	740	.28	980	.25	70	-	30	-	120	12	0.7	10	40	1.8
	6	.85	2,390	.25	700	.30	820	.25	20	-	10	-	20	21	1.9	12	33	2.5
	7	.60	10	neg	-	neg	-	neg	-	-	-	-	-	-	-	-	-	-
SUB TOT			9,340		3,240		4,210		340		150		140	91	1.2	62	159	1.8
1980	1	.20	70	.10	50	neg	-	-	-	-	-	-	-	15	1.9	7	-	0.8
	2	.55	1,810	.20	660	.27	890	-	350	-	140	-	-	6	0.3	13	35	1.8
	3	.47	1,390	.20	590	.25	740	-	90	-	30	-	-	25	1.1	10	33	1.2
	4	.50	1,560	.19	600	.25	770	-	70	-	30	-	-	17	1.3	13	27	2.1
	5	.70	2,590	.20	740	.26	940	-	100	-	40	-	240	12	0.6	10	45	1.7
	6	.80	2,740	.22	750	.30	1,000	-	100	-	40	-	20	21	1.6	12	38	1.5
	7	.60	10	.20	-	neg	-	-	-	-	-	-	-	-	-	-	-	-
SUB TOT			10,170		3,390		4,340		710		280		260	96	1.1	65	178	1.6
1990	1	neg	-	neg	-	neg	-	-	-	-	-	-	-	15	1.4	11	-	1.1
	2	.55	2,000	.20	720	.25	900	-	680	-	270	-	-	6	0.3	13	45	1.6
	3	.50	1,500	.19	570	.25	740	-	90	-	40	-	-	25	0.9	10	33	0.9
	4	.50	1,680	.19	650	.25	820	-	180	-	70	-	-	17	1.1	13	30	1.8
	5	.70	2,820	.20	800	.25	1,000	-	250	-	100	-	240	12	0.5	13	45	1.5
	6	.75	2,830	.20	780	.28	1,050	-	340	-	140	-	20	21	1.3	12	43	1.9
	7	.60	40	.20	10	.25	40	-	-	-	-	-	-	-	-	-	-	-
TOTAL			10,870		3,530		4,550		1,540		620		260	96	0.8	72	196	1.5

FOOTNOTES TABLES A-5-a AND A-5-b

- (a) 1970 student per dwelling unit ratios based on current service area characteristics. Projections based on general aging and recycling of housing and population.
- (b) E/DU - Elementary students per dwelling unit.
I/DU - Intermediate students per dwelling unit.
HS/DU - High School students per dwelling unit.
- (c) Assumed standard for first run: $x + \frac{y}{2} = \text{Acres/1,000 population.}$
 $x = \text{public park acreage (full credit)}$
 $y = \text{school playground acreage in joint use } (\frac{1}{2} \text{ credit})$
- (d) General Plan standard is 1 acre of neighborhood and community shopping center land per 1,000 population.
- (e) Subtotals do not always balance due to rounding of total.
- (f) DU's - Dwelling units.
P/DU's - Persons per occupied dwelling unit.
V - Vacancy factor as a percentage of total dwelling units.
POP - Population yield.
- (g) The multiple family dwelling unit yield per intermediate and high school enrollment was assumed to be negligible throughout the time period.
- (h) 10 acres of the 70 acre city-wide park at Heather Farm credited for neighborhood and community use.
- (i) Ratio does not include Rossmoor population or private park lands within the Rossmoor Development.

APPENDIX 6 PLAN IMPLEMENTATION

INTRODUCTION

The adoption of planning policies is certainly not an end to itself, and to result in achievement of goals must be followed by implementation techniques that can produce the desired results. Each General Plan implementation measure requires detailed goal formation, basic data gathering, analysis, proposals, and policy adoption of its own; and it is not in the province of this appendix to provide those details. What can be outlined in this section is a list and brief description of the implementation tools that might be used to accomplish desired policies for each element of the General Plan. In some cases priorities for implementation will be suggested, but in the final analysis those priorities will have to be established by the City Council after consultation with Staff, the Planning Commission and the community.

The following list of Plan implementation approaches includes some time-proven aids that can readily be accomplished, and other approaches that will require substantial efforts on the part of all of the participants in the planning process. The success of the adopted General Plan policies depends not only on their validity today and tomorrow, but on the desire of the community to see them accomplished. That is the challenge, and this document only provides the guide.

LAND USE

1. Special Area Plans: Preparation of special area plans similar to the existing Core Area Plan and Larkey Area Plan for developing or redeveloping areas that need special attention such as the BART Station Area Plan study that is currently underway. These plans provide more detailed policy guidance than the General Plan and bring policies one step closer to programming, budgeting and actual development.
2. Zoning: Theoretically, zoning policies are intended to be based upon up to date General Plan policies. Too often in practice, however, fragmented zoning decisions are made on a bi-monthly basis that can provide a composite policy that is quite different than originally intended in the General Plan. With the adoption of a revised General Plan it is now possible to conduct comprehensive zoning and prezoning studies for the entire Planning Area based on the General Plan policies that could reasonably take place over the next five years. In addition to providing a comprehensive updating of zoning policy, and prezoning much of the Planning Area for the first time, some changes should be made to the zoning ordinance that would allow many large undeveloped parcels to be generally zoned or prezoned for Planned Development. Density Ranges within the General Plan range might be applied, to

be firmed up or modified upon submittal of a formal Planned Development zoning proposal. The Planning Department has prepared a first draft of a proposed amendment to the Planned Development zoning district that is more comprehensive than the original document, yet retains most of the original flexibility. This draft might be further revised to provide a vehicle for designating large parcels for Planned Development zoning prior to a submittal of a development plan.

3. Subdivision Ordinance: Changes have also been proposed by the Planning Department and the Public Works Department that would provide more flexibility in the subdivision regulation of hillside development. These basic changes relating to street requirements, minimum yard setbacks and lot widths along with any modifications deemed appropriate by the Planning Commission and City Council should be made as soon as possible to help ensure that hillside subdivision not achieved through Planned Developments can still be better fit to the hill areas than through use of the existing flat land standards. These changes should not preclude primary emphasis being placed on the use of Planned Development zoning in the hill areas, and having subdivision tentative and final maps that reflect the planned development philosophy rather than a set of minimum yard and lot requirements.

Consideration should also be given to eventually turning the Subdivision review and approval process over to the Planning Department with rights of appeal to the Planning Commission and/or the City Council. This would take what is essentially a technical matter off of the busy Planning Commission agenda and free up time for more comprehensive zoning studies, special area plan studies and other plan implementation programs.

4. Hill Area Development Policy: Appendix 7 provides the text of the Hill Area Development Policy that has been adopted by both the Planning Commission and the City Council, further references other standards that are being prepared to help implement the policies, and provides guidelines for translation of Hill Area policy to the zoning review process.

Presently before the Planning Commission is a review of all of the documents that go to make up Hill Area Policy in Walnut Creek today together with proposals for standards to provide incentives and controls to implement the general policy. In general, only those standards which are readily quantifiable and can be equally applied throughout the varied hill areas should be explicitly adopted, while matters that vary with the terrain and locational characteristics should remain flexible and qualitative.

5. Capital Improvement Program: One of the best bridges between the general and longer range policies of the General Plan and

the more immediate decisions connected with annual budgets and capital outlays is the Capital Improvement Program. The Program usually covers a five year period and indicates which major improvements such as parks, greenways, roads, storm drains, civic arts facilities and others have the highest priority in relationship to the amount of funds available, the sources of those funds and the timing of individual projects. The Capital Improvement Program was first adopted for use in the 1968/1969 fiscal year and should be updated to reflect the adopted General Plan as soon as possible. After that revision is made, projects that are desired to be included in the next bond issue can be more readily aired and documented. Following major revision of the 1968/1969 Capital Improvement Program, annual revision of that Program should be undertaken by the Staff and the Planning Commission in order to best advise the City Council on annual capital outlay projects in the future.

OPEN SPACE

1. Agricultural Preserve Zoning: A currently available way of at least temporarily saving open space is found in Agricultural Preserve zoning. This zoning is available at the County level to those property owners who own at least 100 acres of agricultural land and who are willing to enter into a contract with the County to ensure that the land will remain in agricultural use for ten year periods and be assessed accordingly. Almost 3,600 acres of agricultural land in the Walnut Creek Planning Area has already been placed in this agricultural preserve zone in conformance with the adopted General Plan. Based on the General Plan simulation analysis made by staff, there are at least six hill area parcels that could apply for agricultural preserve zoning and not be needed for development over the 20 year planning period. Whether or not this hill area grazing land will continue to be economically productive is a question that casts a long-range shadow on the use of agricultural preserve zoning to ensure the provision of permanent open space, and it should be considered an interim device until land can either be acquired or retained in its natural setting by other methods. (For further information, see the Open Space Action Program.)
2. Planned Development Zoning: One of the primary ways in which significant natural open spaces such as major ridges, knolls, rock outcroppings, creekways, and tree cover can be permanently preserved is through the use of Planned Development zoning. With the clustering of dwellings, garages, roads and other facilities on less than one half of hill areas parcels, these major features can be maintained either privately or publicly depending on the significance and scale of the area. At the same time additive landscaping and open spaces articulated by building clusters can also add permanent open space that is maintained in perpetuity through such vehicles as homeowners' associations. It is anticipated that much of the hill area ridges shown as permanent open space on the General Plan will be preserved through the use of Planned Development zoning and the cluster concept that it utilizes.

3. Special Area Plans: Preparation of special area plans that deal entirely with parts of the open space system such as the Ygnacio Valley Road Greenway Plan, or which include an open space element as a primary part provides another way in which the General Plan policies can eventually become reality. Over the last four years in accordance with the Ygnacio Valley Road Greenway Plan, both the private and public sectors have consistantly been developing both the road and the adjoining greenway in a manner that now provides a nearly continuous landscaped corridor, and which soon will have a meandering cycling and pedestrian path on at least one side of Ygnacio Valley Road. Special area plans such as the Civic Center Master Plan also make provisions for implementation of the General Plan through establishing policies for treatment of the creek, retaining its oak tree cover and providing a park mall through the center. Similar emphasis on provision of permanent open space is placed in the Creekside Park-Mall Plan between Newell Avenue and Creekside Drive that is currently being reviewed by the Army Corps of Engineers in Washington, D.C.
4. Capital Improvement Program: Many residents of the community have expressed a desire to acquire portions of the land designated as permanent open space on the General Plan and additional lands. Parcels or portions of parcels that might have high priority for acquisition by the City should be included for consideration in the Capital Improvement Program in order that the method of acquisition can be publicly discussed. The community, for example, may be willing to support a bond issue that includes significant open space acquisitions in balance with other community needs.

CIRCULATION

1. Street & Highway Plan: Now that the revised General Plan has been adopted, the more detailed Street & Highway Plan should be continually updated through the provision of information on right-of-way widths, traveled-way widths, current peak hour and average daily traffic counts, and projected average daily traffic.
2. Traffic Signal System: Evaluate the effectiveness to date of the traffic signal system and determine which existing signals are not appropriately programmed or needed, and what intersections most likely will need signalization within the next five year Capital Improvement Program period.
3. Dial-A-Bus and Dial-A-Car Programs: Provide support for demonstration grants of these and other innovative secondary transportation systems that can hopefully be used to provide access to Rapid Transit, diminish reliance on the conventional auto, and provide primary transportation for certain age and income groups.
4. Air Travel Studies: Conduct studies in coordination with regional agencies to determine the impact of increased air traffic and flight patterns over Walnut Creek in future, and more specifically determine the appropriate future role of helicopters in Walnut Creek.

1. Street Furniture Design Study: Coordination of separate studies under way such as the Core Area street lighting study and the public bench study should be provided, and should integrate other street furniture items to provide a comprehensive policy regarding street furniture whether it be street lights, benches, kiosks, identification signs, parking meters, street trees and other objects.
2. Architectural Review Committee: A committee should be appointed by the City Council to study the appropriateness of having an architectural review committee in Walnut Creek, and what form it should take if desired. Such a committee might be composed of residents, commissioners, and Staff members in an advisory capacity. An attitude survey to obtain a response from the special interest groups of the community might be a part of the study.
3. Sign Ordinance Revision: The long reviewed revised sign ordinance should be finally revised and adopted within the next six months, and Staff allocated the resources needed to review and enforce the ordinance if this is to be a successful means of reducing the clutter and confusion that exists as a part of the streetscape today in Walnut Creek.
4. Undergrounding of Utilities: With virtually all new development required to be installed with underground utilities today, the major task ahead is the removal of existing overhead lines through a comprehensive and long range conversion program. The Underground Utility Advisory Committee composed of representatives from the utility companies and the City Staff provides the necessary analytical expertise for advising the City Council on priorities for areas that should be converted from overhead service to underground lines. This committee has already established short range priorities, mostly within the Core Area, to take advantage of "Rule 20" funds from the utility companies. Other sources of conversion financing are being explored, and preliminary cost estimates can be provided for any area interested in conversion.
5. Height Limit Studies: The City Council has directed Staff to conduct two specific height limit studies; one for Rossmoor, and the second in the Core Area. These two studies could be incorporated into a comprehensive review and revision of the zoning ordinance based on adopted General Plan policy. Consideration of height limits from the community design element point of view of high rise focal points, identifiable centers and contrast of low profile areas could provide one of several inputs into such a study.
6. Planning Area Model: A three-dimensional model at a scale of 1"=600' has recently been completed by the Planning Department which provides a comprehensive indication of the terrain, natural features, all residential buildings, major

non-residential buildings, and community facilities that exist today. This model provides an excellent overview of the community design fabric of Walnut Creek and can be added to as the community is further developed and permanent open space retained. Major applications for development could be simulated on the model to evaluate their general impact on the community pattern. In this sense it is a working model that grows with the community rather than one that projects an idealistic future design pattern that may or may not be reached.

HOUSING

1. Goals Committee and Housing Committee: Incorporate the results of the Goals Committee report as it relates to housing into the Phase Two Housing Element studies; and appoint a Housing Committee that can help the City implement these goals through liaison with City Staff, coordination with special interest groups such as homeowners associations, and recommendations to the Planning Commission and City Council regarding action programs that have community backing.
2. Housing Seminars: Encourage groups such as the Chamber of Commerce, Contra Costa County-Solano County Homebuilders Association, and Walnut Creek Homeowners Council to sponsor housing seminars that would air the housing needs within the community and attempt to provide an agreed upon strategy to meet those needs in a positive manner.
3. Analysis & Projections: As more information becomes available from the 1970 U.S. Census, provide more detailed documentation on Walnut Creek's housing needs, and provide updated short range projections based on those needs in the Phase Two Housing Element studies.
4. Demonstration Project: Get the support of local lenders, realtors, developers, Housing Association, Chamber of Commerce and Homeowners Council to select an appropriate site where an open, low and moderate income housing demonstration project could actually be built on a Planned Development zoning basis with both Federal and local monetary support and effort. Rather than waiting for Federal mandates to be clarified or court cases resolved after several agonizing years, let's attempt to help lead the way as a concerned subregional center of the Bay Region.
5. Leased Housing Participation: Continue support of the County Housing Authority's leased housing program in Walnut Creek, and assist them in seeking more flexible Federal standards that would increase local participation. There is going to be a significant number of older homes in Walnut Creek during the next 20 years that could be stabilized by the maintenance provisions of the program while providing greater housing choice on a scattered basis for those of lower income.

6. Senior Citizen Housing: Hopefully 50 units of housing for those senior citizens having low annual income and net worth will be completed within the next six months. This is but a good start towards the 300 or more units that could be absorbed in Walnut Creek today by this segment of the population. Additional site selection studies should be undertaken, and support given to the County Housing Authority's efforts to obtain greater commitments from the Federal government.
7. Urban Renewal: Future urban renewal projects, whether public or private, in Walnut Creek should include a housing feasibility study at the onset; and whenever feasible, should include the provision of a significant percentage of low income units.

APPENDIX 7

HILL AREA DEVELOPMENT POLICY

INTRODUCTION

In adopting the revised General Plan, the Walnut Creek Planning Commission and City Council incorporated the results of the "Hillside Development In Walnut Creek" study prepared in 1967 and the Hill Area Development Policy adopted by the Planning Commission in 1967, and by the City Council in 1969. The first study, prepared by the consulting firms of Herman Ruth & Associates and Sasaki, Walker Associates jointly with the Planning Department, provided an inventory of existing hill area features and conditions. It further provided illustrations of strategy for both preserving the significant features of the hill areas and accommodating a reasonable amount of development through planned development and cluster development concepts. It was intended primarily to be an information and education document upon which Hill Area and General Plan policy could be based. Copies of this report are available at the Planning Department. The latter study, prepared by the Planning Department, provides a set of objectives and principles to guide development in Walnut Creek's hill areas. These policies are reproduced below:

HILL AREA DEVELOPMENT POLICY

The following Hill Area Objectives and Principles and Hill Areas Map have been adopted in Resolution form as policy guidelines for hill area development in the City of Walnut Creek. Until expanded or modified standards are adopted, the Standard Specifications of the Department of Public Works as they apply to hill areas shall be used as a guidelines for consideration of developments in the hill areas. These standards may be modified and/or expanded upon where they meet the objectives and principles described herein.

The Hill Areas Map, based on a general slope analysis of the Planning Area, provides a guideline for determining where hill area policy should apply as described below:

1. On all parcels of 25 acres or larger where the average slope is 15% or greater.
2. On those parcels less than 25 acres where the average slope is 15% but which include significant features such as extensive tree cover, rock outcroppings, creekways, and varied terrain that are deemed to be in the community interest to preserve through application of hill area policy guidelines.

It is also the policy of the City to encourage planned unit development through Conditional Development Plan zoning to accomplish the objectives and principles described herein.

OBJECTIVES AND PRINCIPLES

Natural Features

Objective: To preserve and enhance the significant natural features of the hill areas including tree cover, ground cover, rock outcropping, streams, lakes, hill sides, knolls and ridges.

Principle: The most significant features of a hill area should be preserved in essentially their natural state as part of a comprehensive open space system. Such an open space system generally should be publicly controlled when of at least neighborhood significance, and privately controlled when of a lesser function.

Development Techniques

Objective: To encourage development alternatives that will establish a more harmonious visual and functional relationship between the natural hill areas environment and the man-developed environment than has been the result of conventional flatland practices.

Principle: The alternative approaches of cluster development, sculpture methods and lot size adjustment to the terrain conditions should be applied within the framework of the General Plan guidelines.

Grading

Objective: To minimize grading and cut and fill operations consistent with the retention of the natural character of the hill areas.

Principle: Grading and the resulting cuts and fills should be minimized by adherence to the following guidelines:

1. Variation of approach to building site preparation from conventional pad and split-level pad solutions to complete elimination of padding depending on the steepness and variation of the terrain.
2. Variation of conventional street standards for width, horizontal and vertical curvature, and steepness of grade for short runs where justified by the specific function of a street in relation to the steepness of the terrain.
3. Partial or complete elimination of on-street parking and the in-lieu provision of parking bays where dictated by the character of the terrain.
4. Reduction or elimination of conventional sidewalks where a separate pedestrian system is provided

and on cul de sac streets.

5. Adjustment of lot size, widths, depths, building heights and yard requirements to fit varying site conditions.
6. To recontour significant graded areas into forms similar to the natural land forms.

Flood and Erosion Control

- Objective:** To minimize the water runoff and soil erosion problems incurred in adjustment of the terrain to meet on-site and off-site development needs.
- Principle:** Flooding and soil erosion should be controlled by a combination of retention of native ground cover on necessary cuts and fills, and by direction of drainage facilities away from buildings and to the nearest storm sewer.

Sewage Treatment

- Objectives:** To provide the safest and most healthful method of sewage disposal.
- Principle:** Sewage disposal should be provided entirely by sanitary sewer, except on larger parcels where long range septic tank requirements can be met and sewer line connections are not feasible.

Density and Intensity of Land Use

- Objective:** To achieve land use densities that are in keeping with the General Plan, while additionally retaining the significant natural features of the hill areas.
- Principles:** Density and intensity of land use in hill areas should be expressed and evaluated primarily in terms of "averages" instead of "minimums" to encourage adjustments to complement the natural terrain.

Density should generally decrease as the steepness of the terrain increases.

The intensity of land use in the hill areas should be based on the following considerations:

1. Utilization of the flatter lands for the more intensive development.
2. The physical capability of the land to accommodate a given intensity.

3. The proximity to major streets.
4. The proximity to community facilities.
5. The extent of disruption of the terrain and the view.

Recreation Facilities

- Objective: To provide a comprehensive system of recreation facilities that best utilize and complement the character of the hill areas.
- Principle: To connect hill area parks, recreation facilities and significant open space areas by use of greenway links such as streambeds, ridges, side slopes and utility easements; and to provide paths and trails within these links for riding, hiking and cycling functions.

The View and Community Appearance

- Objective: To preserve the predominant views both from and of the hill areas and to retain the sense of identity and imageability that these hill areas now impart to the City of Walnut Creek and its environs.
- Principle: Preservation of the view and the identity of the significant natural open spaces can best be enhanced by preservation of a continuity of open space and integration of structures with the terrain.

Hill Area Development Review

- Objective: To provide the comprehensive set of documents needed to adequately evaluate a proposed hill area development.
- Principle: The following documents should be provided as a part of each application for hill area review:
1. A general development plan indicating the proposed relationships of land use, circulation and open space.
 2. A site analysis diagram indicating the location of existing tree cover, creeks, lakes, rock outcroppings, main vantage points and other significant natural features that influence the planning and design.
 3. A grading plan showing the general areas and amounts of grading and cut and fill operations.
 4. A drainage plan when recommended by the Department of Public Works.

5. A preliminary soils and geological hazards report to substantiate the general development plan program.

Each hill area development proposal should be prepared by a qualified design team normally consisting of a land planner, a civil engineer, an architect, and a landscape architect.

STANDARDS

Since adoption of the Hill Area Development Policy, the Planning and Public Works Departments and the Planning Commission through the direction of the City Council have been preparing and reviewing and adopting standards where feasible to help implement the policies. A list of the various types of standards under consideration and their current status is provided below:

1. Section 22 of the Standards Specifications of the Municipal Code relating to Minimum Street Design Standards has been revised by the Public Works Department and adopted by the City Council to provide hill area standards for street right-of-way widths, street pavement widths, parking lane widths, elimination of off-street parking, elimination of sidewalks, and street alignments where applicable.
2. An amendment to the P-D, Planned Development, section of the Zoning Ordinance has been drafted by the Planning Department and is currently being reviewed by the Planning Commission. This proposed amendment encourages all hill area developments to use P-D zoning, provides more descriptive text than previously with specific references to hill area development, and includes a requirement for a slope classification map, a grading plan and a topographic map as part of Planned Development submittals in hill areas.
3. Amendments to the Subdivision Ordinance have been proposed by the Planning Department and are currently being reviewed by the Planning Commission to provide more flexibility in hill area subdivisions with regard to use of "flag" lots, minimum lot widths and minimum yard requirements.
4. A Slope-Density Chart and policy has been prepared by the Planning Department at the request of the Planning Commission similar to the illustrative chart that was included as an appendix in the adopted Hill Area Development Policy. The main difference between the two is found in the recommended use of the chart. The original illustrative chart was intended to be used as a guide by the Planning Department for General Plan studies and to provide one way of reviewing each individual application in hill areas. The Slope-Density Chart now recommended by the Planning Commission is intended to be adopted in Ordinance form which would limit the number of dwelling units based entirely on slope. If such an ordinance is adopted, some flexibility should be incorporated that would provide the same type of population density range to parallel the dwelling unit density ranges as was done in

the General Plan policy.

HILL AREA DEVELOPMENT RELATED TO GENERAL PLAN POLICY

Specific determination of the appropriate numbers of dwelling units and population yields is more properly a function of the zoning review process, but the following general guidelines should be applied in keeping with adopted General Plan policy for hill areas.

1. That Planned Development zoning rather than conventional zoning is necessary in the hill areas to take full advantage of the available buildable lands and preserve the most significant features of the terrain.
2. That cluster development techniques should be applied as described in the Hillside Development Study, the Hill Area Development Policy, and as generally illustrated in Appendix 1.
3. That general credits toward development of a given parcel at the higher end of the density ranges should be considered in approval of Planned Development zoning when the following types of amenities are included in a development plan:
 - A. Preservation of significant ridges, knolls, creekways, rock outcroppings and tree cover.
 - B. Provision of public and/or private multi-use trail systems.
 - C. Provision of private and/or public recreation facilities such as equestrian facilities, cabana clubs, tennis clubs, tot lots and playfields among others.
 - D. Preservation of public views of the existing natural features and provision of private views from the site to the surrounding area.
 - E. Provision of a variety of dwelling types and price ranges in keeping with the Housing Element policies of the General Plan.
 - F. Reservation or dedication of public sites such as schools, parks, and library sites.
4. That the number of dwelling units in a given hill area planned development may exceed that which might be expected in a conventional development in the same density range, as long as the resulting population is expected to be within the range indicated in General Plan policy.

APPENDIX 8
TRAFFIC ESTIMATES AND PROJECTIONS

<u>NAME</u>	<u>LOCATION</u>	<u>E/F NO. LANES</u>	<u>EXISTING ADT (2 WAY)</u>	<u>1990 ADT (2 WAY)</u>	<u>ULTIMATE CAPACITY</u>	<u>VOLUME/ CAPACITY</u>
<u>FREEWAYS (EXISTING)</u>						
STATE 24	W. of Pleasant Hill Rd.	10/10	86,000	144,400		
" "	E. of Pleasant Hill Rd. to Wye	10/10	83,000	146,000		
INTERSTATE 680	Wye to Ygnacio Valley Rd.	4/8	94,000	178,600		
" "	Ygnacio Valley Rd. to N. Main St.	4/8	75,000	148,100		
" "	N. Main St. to Geary Rd.	4/8	91,000	172,000		
" "	Geary Rd. to Oak Park Blvd.	4/8	78,000	131,200		
" "	Wye to Newell Ave.	6/8	62,000	148,000		
" "	Newell Ave. to S. Main St.	6/8	43,000	126,400		
" "	S. Main St. to Rudgear Rd.	6/8	50,000	121,500		
" "	Rudgear Rd. to Livorna Rd.	4/8	48,000	115,600		
" "	Livorna Rd. to Stone Valley Rd.	4/8	46,500	113,400		
<u>FREEWAYS (FUTURE)</u>						
STATE 77	Las Trampas Pkwy. to Olympic Blvd.	/8		102,200		
" "	Olympic Blvd. to State 24	/8		97,400		
" "	State 24 to Stanley Blvd.	/8		116,500		
" "	Stanley Blvd. to Geary Rd.	/8		111,700		
STATE 24	Fwy. 680 to Bancroft Rd.	/8		109,600		
" "	Bancroft Rd. to Oak Grove Rd.	/8		103,900		
" "	Oak Grove Rd. to Cowell Rd.	/8		96,300		
<u>EXPRESSWAYS (EXISTING)</u>						
YGNACIO VALLEY RD.	Fwy. 680 to California Blvd.	4/6	23,500	36,800	33,400	1.10
" " "	California Blvd. to Main St.	4/6	25,100	35,000	33,400	1.05

APPENDIX 8 (CONTD.- 1)
TRAFFIC ESTIMATES AND PROJECTIONS

<u>NAME</u>	<u>LOCATION</u>	<u>E/F NO. LANES</u>	<u>EXISTING ADT (2 WAY)</u>	<u>1990 ADT (2 WAY)</u>	<u>ULTIMATE CAPACITY</u>	<u>VOLUME/ CAPACITY</u>
<u>EXPRESSWAYS (EXISTING)</u> <u>Continued</u>						
YGNACIO VALLEY RD.	Main St. to Broadway	4/6	26,200	52,100	33,400	1.56
" " "	Broadway to Civic Dr.	4/6	24,000	31,900	33,400	0.95
" " "	Civic Dr. to Walnut Blvd.	4/6	20,000	51,400	40,700	1.26
" " "	Walnut Blvd. to San Carlos Dr.	4/6	20,000	47,600	40,700	1.17
" " "	San Carlos Dr. to Walnut Ave.	4/6	20,000	38,200	40,700	0.94
" " "	Walnut Ave. to Wiget Ln.	6/6	20,000	29,100	40,700	0.71
" " "	Wiget Ln. to Oak Grove Rd.	6/6	22,000	24,900	40,700	0.61
" " "	Oak Grove Rd. to Cowell Rd.	4/6	13,000	37,400	40,700	0.92
CALIFORNIA BLVD.	Newell Ave. to Olympic Blvd.	4/6	14,000	38,300	33,400	1.14
" " "	Olympic Blvd. to Mt. Diablo Blvd.	4/6	13,000		33,400	
" " "	Mt. Diablo Blvd. to Ygnacio Valley Rd.	6/6	14,000	31,000	33,400	0.93
" " "	Ygnacio Valley Rd. to N. Main St.	6/6	12,000	24,600	33,400	0.74
BROADWAY - CIVIC	Walden Rd. to Ygnacio Valley Rd.	4/4	9,000	16,600	27,100	0.61
" " "	Ygnacio Valley Rd. to Mt. Diablo Blvd.	4/6	12,000	20,600	25,400	0.81
<u>EXPRESSWAYS (FUTURE)</u>						
BROADWAY	Mt. Diablo Blvd. to Newell Ave.	4/6	10,000	26,000	33,400	0.78
" "	Newell Ave. to Lilac Dr.	4/6		19,200	33,400	0.57
LAS TRAMPAS	Fwy. 77 to Rossmoor Pkwy.	4/4		49,300	45,000	1.10
" "	Rossmoor Pkwy. to Stone Valley Rd.	4/4		49,000	45,000	1.10
<u>ARTERIALS</u> <u>SA-1 CORE AREA</u>						
MT. DIABLO BLVD.	Wye to Alpine Rd.	4/4	17,000	23,000	23,800	0.97
" " "	Alpine Rd. to Bonanza St.	4/4	20,000	23,000	23,800	0.97

APPENDIX 8 (CONTD.- 2)
TRAFFIC ESTIMATES AND PROJECTIONS

<u>NAME</u>	<u>LOCATION</u>	<u>E/F NO. LANES</u>	<u>EXISTING ADT (2 WAY)</u>	<u>1990 ADT (2 WAY)</u>	<u>ULTIMATE CAPACITY</u>	<u>VOLUME/ CAPACITY</u>
<u>ARTERIALS (Continued)</u>		<u>SA-1 CORE AREA</u>				
MT. DIABLO BLVD.	Bonanza St. to California Blvd.	4/4	19,000		23,800	
" " "	California Blvd. to Main St.	4/4	13,000	18,800	22,000	0.92
" " "	Main St. to Broadway	4/4	17,000	37,300	22,000	1.70
MAIN STREET	San Luis Rd. to Parkside Dr.	4/6	29,000	50,100	33,400	1.50
" "	Parkside Dr. to N. California Blvd.	4/6	29,000	46,800	33,400	1.40
" "	N. California Blvd. to Ygnacio Valley Rd.	4/4	23,000	24,900	23,800	1.05
" "	Ygnacio Valley Rd. to Civic Dr.	4/4	18,200		23,800	
" "	Civic Dr. to Mt. Diablo Blvd.	2/2	16,950	11,600	11,600	1.00
" "	Mt. Diablo Blvd. to Newell Ave.	4/4	18,700	32,900	28,000	1.17
" "	Newell Ave. to Lilac Dr.	4/4	17,700	20,000	25,400	0.79
" "	Lilac Dr. to Creekside Dr.	4/4	22,400	25,600	25,400	0.99
CIVIC DRIVE	Broadway to Main St.	4/4	10,000		20,000	
" "	Main St. to California Blvd.	4/4	9,000		20,000	
NEWELL AVENUE	Freeway 680 to California Blvd.	4/4	17,000	51,100	22,000	2.32
" "	California Blvd. to S. Main St.	4/4	18,000		22,000	
OLYMPIC BLVD.	Freeway 680 to California Blvd.	4/4	10,000	10,500	20,000	0.52
<u>SA-2 LAS LOMAS</u>						
RUDGEAR ROAD	Freeway 680 to San Miguel Dr.	2/4	3,600	12,000	27,100	0.45
" "	San Miguel Dr. to Dapplegray Lane	2/2	1,800	7,500	15,100	0.50
RUDGEAR ROAD (FUTURE)	Dapplegray Lane to Livorna Rd. Extended	0/2		10,500	15,100	0.70

APPENDIX 8 (CONTD.- 3)
TRAFFIC ESTIMATES AND PROJECTIONS

<u>NAME</u>	<u>LOCATION</u>	<u>E/F NO. LANES</u>	<u>EXISTING ADT (2 WAY)</u>	<u>1990 ADT (2 WAY)</u>	<u>ULTIMATE CAPACITY</u>	<u>VOLUME/ CAPACITY</u>
<u>ARTERIALS (Continued)</u>		<u>SA-2 LAS LOMAS</u>				
LIVORNA RD.	Freeway 680 to Trotter Way	2/4	1,700	28,600	27,100	1.03
" "	Trotter Way to Miranda Ave.	2/4		18,600	27,100	0.68
LIVORNA RD. (FUTURE)	Miranda Ave. to Rudgear Rd.			18,600	27,100	0.68
		<u>SA-3 DEL VALLE</u>				
OLYMPIC BLVD.	Freeway 680 to Newell Ave.	2/4	4,600	10,500	27,100	0.38
" "	Newell Ave. to Tice Valley Blvd.	2/4		27,700	27,100	1.02
" "	Tice Valley Blvd. to Freeway 77	2/4		10,500	27,100	0.39
NEWELL AVE.	Freeway 680 to Olympic Blvd.	2/2	6,400	28,300	15,000	1.87
TICE VALLEY BLVD.	Olympic Blvd. to Rossmoor Pkwy.	2/4		23,900	27,100	0.86
" " "	Rossmoor Pkwy. to Meadow Rd.	2/2	2,300	5,100	15,100	0.34
TICE VALLEY BLVD. (FUTURE)	Meadow Rd. to Rudgear Rd.	2/2		9,700	15,100	0.65
BOULEVARD WAY	Nicholson Rd. to Kinney Dr.	2/4	6,800		25,400	
" "	Kinney Dr. to Olympic Blvd.	2/4	3,200	10,100	25,400	0.40
DANVILLE HWY.	S. Main St. to Rudgear Rd.	2/4		27,300	29,000	0.94
" "	Rudgear Rd. to Livorna Rd.	2/4		21,600	29,000	0.75
		<u>SA-4 ACALENES</u>				
PLEASANT HILL RD.	Freeway 24 to Stanley Blvd.	4/4			27,100	
" " "	Stanley Blvd. to Reliez Valley Rd.	4/4		14,100	27,100	0.52

APPENDIX 8 (CONTD.- 4)
TRAFFIC ESTIMATES AND PROJECTIONS

<u>NAME</u>	<u>LOCATION</u>	<u>E/F NO. LANES</u>	<u>EXISTING ADT (2 WAY)</u>	<u>1990 ADT (2 WAY)</u>	<u>ULTIMATE CAPACITY</u>	<u>VOLUME/ CAPACITY</u>
<u>ARTERIALS (Continued)</u>						
	<u>SA-4 ACALANES</u>					
PLEASANT HILL RD.	Reliez Valley Rd. to Taylor Blvd.	4/4		17,600	27,100	0.65
" " "	Taylor Blvd. to Geary Rd.	4/4		9,900	27,100	0.36
GEARY ROAD	Pleasant Hill Rd. to Putnam Blvd.	2/4	4,200	9,400	27,100	0.35
" "	Putnam Blvd. to Main St.	2/4	6,800	18,100	27,100	0.67
N. MAIN ST.	San Luis Rd. to Geary Rd.	2/4	14,000	15,500	23,800	0.90
	<u>SA-5 NORTH YGNACIO VALLEY</u>					
TREAT BLVD.	Freeway 680 to Oak Road	2/6	20,000	20,600	40,700	0.50
" "	Oak Road to Bancroft Road	2/6	20,000	25,900	40,700	0.63
" "	Bancroft Road to Oak Grove Road	2/6	17,400	21,500	40,700	0.52
" "	Oak Grove Road to Detroit Ave.	6/6	10,700	22,500	40,700	0.55
OAK GROVE ROAD	Minert Rd. to Treat Blvd.	4/4	12,000	19,200	27,100	0.71
" " "	Treat Blvd. to Mitchell Dr.	4/4	16,000	20,200	27,100	0.74
" " "	Mitchell Dr. to Ygnacio Valley Rd.	4/4	14,000		27,100	
BANCROFT ROAD	Minert Rd. to Treat Blvd.	4/4	7,000	32,600	30,000	1.08
" "	Treat Blvd. to Ygnacio Valley Rd.	2/4	10,000	34,700	30,000	1.15
OAK ROAD	Walden Rd. to Jones Rd.	2/4		14,800	27,100	0.54
" "	Jones Rd. to Treat Blvd.	2/4		17,500	27,100	0.65
	<u>SA-6 SOUTH YGNACIO VALLEY</u>					
WALNUT AVE.	Ygnacio Valley Rd. to Las Lomas Way	4/4	2,400	29,200	25,400	1.15
" "	Las Lomas Way to Wiget Lane	2/4	2,100	6,900	25,400	0.27

APPENDIX 8 (CONTD.- 5)
TRAFFIC ESTIMATES AND PROJECTIONS

<u>NAME</u>	<u>LOCATION</u>	<u>E/F NO. LANES</u>	<u>EXISTING ADT (2 WAY)</u>	<u>1990 ADT (2 WAY)</u>	<u>ULTIMATE CAPACITY</u>	<u>VOLUME/ CAPACITY</u>
<u>ARTERIALS</u> (Continued)	<u>SA-6 SOUTH YGNACIO VALLEY</u>					
WALNUT AVE.	Wiget Lane to North Gate Road	4/4		11,800	25,400	0.46
OAK GROVE RD.	Ygnacio Valley Rd. to Valley Vista Rd.	4/4	5,500	20,600	27,100	0.76
" " "	Valley Vista Rd. to North Gate Rd.	2/4		12,500	27,100	0.45
CASTLE ROCK RD.	Oak Grove Rd. to Comistas Dr.	2/4		19,500	27,100	0.71
" " "	Comistas Dr. to Rudgear Rd.	2/2		14,100	15,100	0.93

SOURCES:

California State Division of Highways (1970)
Public Works Department, City of Walnut Creek (1971)
Peat, Marwick, Livingston & Co. (1967)

APPENDIX 9

PARK STANDARDS FOR CITY OF WALNUT CREEK

1. A total of 5 acres of usable and developed park land per 1000 population.

A. School playfields are given half credit since only approximately 1/2 of their usable time is available for public use.

2. Emphasis for acquisition and development and inclusion of special facilities should be located at community and major parks.

3. Neighborhood centers should include the following: (2.5 ac. if adjacent to school site, or 5 to 10 ac. if separate)

1st priority -

1. Open playfield 2 to 5 acres
2. Play apparatus area
3. Park-like landscape area
4. Multi-game court area
5. Sanitation facilities (minimum)

2nd priority -

1. Small pool (42' x 75', shallow water)
2. Recreation room (20' x 30' minimum)
3. Tennis courts (1 or 2)
4. Parking (10 or 20 cars)
5. Picnic-outdoor classroom

4. Community Parks (10 ac. minimum if adjacent to school site, or 20 ac. if separate.

1st priority -

- | | <u>Minimum</u> |
|--|----------------|
| 1. Park-like asre-passive activities | 3 ac. |
| 2. Sport fields (softball, soccer, football) | 3 ac. |
| 3. Children's apparatus areas | 1/2 ac. |
| 4. Special use facilities (3 or more) | 3 |

- a. Swim center
- b. Tennis courts (min. of 4 courts)
- c. Recreation building (min. of 2000 sq. ft.)
- d. Interpretive center
- e. Lighted ball field
- f. Large group picnic area
- g. Etc.
5. Parking
6. Rest rooms

RECREATION FACILITIES STANDARDS

(School Recreation-Athletic Facilities to Receive 1/2 Credit)

<u>Facility</u>	<u>Standard</u>
1. Swim pool	450 sq. ft. of water space per 1000 population
2. Tennis courts	1 court per 2,000 persons
3. Gymnasium	1 gym per 20,000 persons
4. Recreation Ball Fields (unlighted)	1 field per 3,000 persons
5. Recreation Ball Fields (lighted)	1 field per 10,000 persons
6. Community centers & recreation centers (multi-use)	1 per 15-20,000, min. of 8,000 sq. ft.
7. Historical museum	1 per city, 8-10,000 sq. ft.
8. Picnic Facilities	1 table-unit per 500 persons
9. Horseshoe pits	1 per 5,000 persons
10. Handball courts	1 per 10,000 persons
11. Lawnbowling, Bocci ball, etc.	1 per 20,000 persons
12. Children's play apparatus area	1 ac. per 10,000 persons
13. Junior Museum	1 per city (10,000 sq. ft.)
14. Animal farm (2 ac.)	1 per city
15. Archery Field Court	1 per city
16. Model Airplane Center	1 per city (3 ac. site)
17. Youth Mini-Bike Park	1 per 10,000 (5 ac. site)
18. Turf Playfield (multi-sports)	2.5 ac./1,000 persons
19. Major Sport Complexes:	
a. Football	1 per 20,000 persons)
b. Baseball	" " " ") usually provided by
c. Soccer	" " " ") high school
20. Children's Play Apparatus Area	1/2 ac. per 1,000 persons

APPENDIX 10

1. Community Development Department, City of Walnut Creek, Environmental Impact Report, Skymont Sub-Division. April 1973.
2. Contra Costa County - "Interim Hiking Trails Plan", "Interim Riding Trails Plan" and "Interim Bicycle Trails". June, 1972. (These plans, while being relatively brief and general in nature, outline the county-wide trail system which serves as the skeletal frame of the City's proposed trail plans).
3. Contra Costa County, Open Space & Conservation Plan, March, 1973. (The policies and findings of this document were reviewed to insure that both the County and City jurisdictions had compatible plans.
4. Davidson, Mary Grace, and Walnut Creek Parks & Recreation Department "Master Plan - Horse and Walking Trails". March, 1972. (This report describes several of the proposed trail routes in detail and served as a starting point for the Trail Element planning process.
5. Duncan & Jones, "Consultant's Final Open Space Report", July 9, 1973. (This report is the result of the consultants analysis of open space plan sites and implementation tools, as well as recommendations for a bond election program. Most of the data on open space sites and values for open space was obtained from this report (see pages 23-44). The analysis and conclusions were a result of extensive field investigations, aerial and photographic interpretation, discussion with property owners and staff as well as extensive analysis of various maps and environmental impact reports
6. Duncan & Jones and Ribera & Sue, Santa Cruz County Parks, Recreation &

I. GEOLOGIC HAZARDS INVESTIGATION

Summary of Geologic Hazards Findings

A large earthquake located on a fault anywhere in the San Francisco Bay Area could cause one or more of the following within the Walnut Creek planning area: extensive ground shaking, landsliding, liquefaction, settlement, and differential subsidence.* If the earthquake originates within the Walnut Creek area, fault displacement will also occur. The relative risk of each of these hazards occurring is not equal in the entire area. Maps included in this report show areas of varying risk for each of the earthquake effects which could happen. The accompanying text interprets these maps and explains how the information was obtained.

Fault movement, the horizontal or vertical movement of land on each side of a fault, can occur along the active Concord Fault or along an associated branch of this fault on the eastern side of Ygnacio Valley. Fault movement is also possible along any of the many faults within the potentially active Calaveras Fault System which lies west of Freeway 680.

Groundshaking, the result of an underground earth movement or earthquake, is a potential hazard throughout the planning area. The severity of this shaking will depend on the size and location of the earthquake; the height, design, and type of structure; and the local soil conditions.

Groundshaking can trigger several types of soil collapse, including landsliding, liquefaction, subsidence and settlement.** Sliding may occur in the hills, especially those on the eastern side of the Walnut Creek area. Liquefaction, a temporary quicksand condition, may be a problem along the various creeksides (see Figure 5). Differential subsidence, a condition where two adjacent pieces of land subside by different amounts, is possible along active or inactive fault traces or other subterranean zones of geologic weakness.**

General Geology: Structure and History

The Walnut Creek Planning Area can be divided into three geologic zones based on the age and the general type of rocks exposed on the surface. These areas are (see Figure 1):

A. The Alluvial Flat Plains (less than 3 million years old)

Zone A of Figure 1 illustrates those areas composed of gravels, sands, silts, and clays derived from rocks either upstream, upslope, or beneath older deposits. Much of this ground is flat lying so that the possibility of landslides or mudslides is minimized. Groundshaking, however, will be severe in much of the area. Liquefaction and subsidence may also present problems in localized areas.

*Refer to glossary for definition of terms.

**Additional material on each of the following sections is available in the Seismic Safety Supplementary Report, 1974. Large-scale maps illustrating fault zones, slide risk, and liquefaction potential are also available for the public at the Planning Division office.

within the Walnut Creek watershed. Much of this information was used in conjunction with miscellaneous environmental impact reports to prepare the the Conservation Elements and portions of the Open Space Elements. Specific page references are: Volume I: Concord Fault, Page 21-A; Soils, Page 27-32; Vegetation, Page 52-120; Riparian Vegetation, Page 155 - 158; Air Quality, Page 241-243; Volume II: Inventory of flora & fauna).

12. Institute of Transportation and Traffic Engineering, Bikeways Planning Criteria and Guidelines, April, 1972. (Initiated by the State Legislature, this report prepares the guidelines and criteria recommended for use by all cities and counties for the construction of bike routes).

APPENDIX 11

OBJECTIVES, PRINCIPLES AND STANDARDS
FOR THE SAFETY ELEMENTObjectives

1. To reduce the potential for property damage and loss of life resulting from natural disasters.
2. To insure that all future planning efforts adequately weigh the risks of natural disasters and incorporate safety considerations into the planning process.
3. To quickly alleviate the problems stemming from natural disaster by developing an infrastructure capable of operating following a major disaster.
4. To discourage crime through the incorporation of "defensible space" concepts into the design of dwellings and other structures.
5. To identify areas where potential problems may occur and work to alleviate these conditions.

Principles

1. Access to hospitals and fire stations or other structures critical for dealing with emergency conditions should not be blocked following a disaster.
2. Access to high density neighborhoods and other areas with a high concentration of people should not be totally disrupted in emergency conditions. All major traffic corridors should remain operable within the realm of natural catastrophes.
3. Structures situated in critical fire zones should follow established standards for clearances around structures and be designed in such a manner to withstand the threat of moderate fire conditions.
4. All new roads and improvements of existing roads should be designed in such a manner to accommodate fire and emergency access within reasonable tolerances.
5. The arrangement and site plan of all major structures or subdivisions should be designed in accordance with the standards set forth in the defensible space section.
6. Development in areas of high fire risk should be contingent upon the availability of sufficient water supplies to combat the expected level of fire risk.

7. Standards for the construction of public facilities and transportation corridors should not be at such a high level as to accommodate conditions in the biggest conceivable disaster. Rather, roads, public buildings, and water supplies should be designed to accommodate the average level of disaster. Emphasis on future construction and capital improvements should be geared toward alleviating deficiencies in critical risk areas.

8. Disaster preparedness plans should continue to be updated and all persons responsible for acting in disaster situations should be kept aware of their roles and responsibilities.

9. The degree that safety considerations be included in land use decisions should be based on the following factors:

- a. Expected frequency of disaster occurrence;
- b. Probable magnitude of disaster;
- c. Degree of risk to human life; and
- d. Public costs.

Standards

A. Crime Prevention Standards for Residential Subdivisions

1. Street patterns and lot plans should maximize social deterrents to crime by enhancing intra-neighbor observation.

2. Houses should be clustered into small neighborhoods which are removed from thoroughways, thus making strangers in the neighborhood more obvious.

3. Streets should be wide enough to permit clear observation and sufficiently straight to provide for adequate patrol observation.

4. Major through streets should be sufficient in number and laid out in a manner to facilitate the police when responding to an emergency.

5. Entrances to homes should be clearly visible to either patrols or neighbors unless residents choose to obscure them.

6. Unobservable windows should be kept at a minimum and small enough to prevent an average size person from gaining access through them.

7. House numbers for each residence should be clearly identified and visible at all times. Walkways in residential neighborhoods should be situated to generate enough traffic to provide a deterrent by virtue of the number of people using the walkways and wide enough to permit clear observation. They must also be adequately lighted and landscaped in a manner so as to provide minimum concealment for would be attackers.

8. Neighborhoods located adjacent to a commercial zone or school complexes should have some sort of buffer between them such as a large expanse of park land or a high wall.

B. Crime Preventive Standards for Commercial Districts

1. Public streets and walkways should be fairly straight and wide enough to permit patrol observations.
2. Vehicle access should be provided to the front and back of all buildings in a shopping center, mall, or strip commercial area.
3. All street closings should allow means for patrol observation and emergency access.
4. Dead-end streets and alleys should be avoided.
5. The layout of stores should be clustered by operating hours so that stores open after normal shopping hours can be together.
6. Adequate lighting should be provided along all streets, in parking lots, in landscaped areas, and interior areas.
7. Landscaping materials along walkways and parking lots should not permit concealment.
8. Parking stalls should be laid out to permit maximum observation by patrol, the public, and parking lot attendants. If possible, the lot should be at a lower grade than the surrounding streets to increase observation.
9. Entrances and exits to shopping facilities should be kept to a minimum, be well lighted, and visible to police patrols and the public.
10. All means of gaining access to roofs should be removed except where conflicting with fire regulations.
11. Buildings should be situated so that they provide no indentations or alleyways which could be used by assailants for concealment.
12. Walkways should be situated to generate enough traffic to provide a deterrent by virtue of the number of people using the walkway at all times.
13. All commercial construction should continue to abide by the "Standard Commercial Security Requirements."

C. Crime Preventive Standards for Apartment Complexes

1. Large apartment complexes should eliminate all but the essential thoroughfares through the apartment areas without reducing fire suppression capabilities.
2. The large apartment complexes should have sufficient setbacks from the perimeter streets to deter the casual passerby from entering the complex area.

3. Street patterns and lot plans should maximize social deterrents to crime by enhancing neighborhood observation and recognition.

4. Apartments should be arranged on the site with adequate access streets to enable the police to respond quickly in an emergency.

5. Off-street garage parking areas should be available for tenants and visitors to reduce on-street parking.

6. Unobservable windows should be kept to a minimum, especially on the first floor.

7. Stairwells should be open and able to be observed at all times from public areas.

8. Storage areas outside of the tenants apartments should be located in a secure area where they are remote and not visible from an adjacent street. Access should be limited only to apartment dwellers.

9. Walkways should be situated to generate enough traffic to provide a deterrent by virtue of the number of people using or observing the walkway. They should be wide enough and sufficiently straight enough to provide adequate observation and lighted for evening activity.

SAFETY ELEMENT BIBLIOGRAPHY

1. City of Walnut Creek, Civil Defense and Disaster Preparedness Plan, September, 1970.
2. State of California - Division of Forestry, "A Fire Hazard Severity Classification System for California's Wildlands," April, 1973.
3. State of California - Division of Forestry, "An Evaluation of Efforts to Provide Fire Safety to Development and Occupancy Within the Wildlands of California," April, 1973.
4. Cities of Richmond, El Cerrito, and San Pablo, "The Seismic Safety Study for the General Plan - Tri-Cities Seismic Safety and Environmental Resources Study," September, 1973.
5. County Supervisors Association of California, Fire Safety Guides for California Watersheds, March, 1965.
6. Nichols, D. R. and Buchanan - Banks, J. M., Geological Survey Circular 690, "Seismic Hazards and Land-Use Planning," 1974.
7. Southern California Association of Governments, "A Study of Crime Prevention Through Physical Planning," September, 1971.

PROJECT PARTICIPANTS

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APPENDIX 12

OBJECTIVES, PRINCIPLES AND STANDARDS FOR THE
SEISMIC SAFETY ELEMENTObjectivesGeneral

1. To minimize the threat of seismic hazards to public health and safety.
2. To reduce the costs of seismic hazards, in terms of loss of life, property damage, and loss of the social coherence of the community.

Specific

1. To prevent individuals from being injured or killed as the result of an earthquake.
2. To reduce the risk of seismically-induced property damage occurring due to actions taken by either an individual or governmental agency.
3. To reduce the risk of seismically-induced damage occurring due to lack of disclosure of geologic hazards information.
4. To reduce the costs to the City of Walnut Creek for maintaining roads and other services in areas of high geologic risk.
5. To reduce the risk of seismically-induced damage occurring to publicly owned buildings.

PrinciplesLand-Use Planning

1. Construction of very critical buildings, high priority buildings, commercial buildings, and high density residential complexes should be discouraged in high risk zones such as in Active Fault Displacement Study Areas and in High Slide Risk Areas.
2. Agricultural uses such as ranching, and recreational uses such as open space, parks, and golf courses should be encouraged in high risk areas.
3. Density of structures should be very low in areas of high or medium risk and higher in areas of low or virtually no risk.
4. Structures having high use should be located in areas of lower relative risk than structures of low use.

Hazards Studies and Study Areas

1. Development proposals occurring in high or medium risk areas should completely evaluate geologic factors when locating buildings, roads, utilities, and parks.

2. Mitigating measures should be required of all developments to reduce geologic risks to acceptable levels.
3. The location of the risk area boundaries should be a matter of public knowledge.

Construction

1. Those buildings susceptible to severe damage should be replaced or modified to minimize the risk of damage.
2. Tall structures should be discouraged in areas of deep sediment.
3. The most modern building practices available should be used in the design of buildings.
4. More effort should be placed in maximizing the structural safety of critical emergency buildings, high priority buildings, high use buildings, and major public arteries than in small residences and more minor arteries.

Disaster Preparedness

1. Well developed plans should be made to deal with a possible earthquake disaster.
2. Disaster preparedness plans should be considered as a reduction of the effects of the seismic hazard, not as a reduction of the seismic hazard problem itself.

Standards

Development*

1. No structure for human occupancy shall be permitted to be placed across the trace of a fault in the Concord Fault System. Furthermore, the area within fifty (50) feet of an active fault shall be assumed to be underlain by active branches of that fault unless and until proven otherwise by an appropriate geologic investigation and submission of a report by a geologist registered in the State of California. (This fifty (50) foot setback is intended to represent minimum criteria only. Certain types of faults will require larger setbacks. Certain essential or critical structures may also be subject to more restrictive criteria at the discretion of the City of Walnut Creek.)
2. No structures classified as very critical, high priority, or high use buildings shall be permitted to be placed across or within fifty (50) feet of a potentially active fault in the Calaveras Fault System as determined by a geologic study. (Again, certain types of faults may require larger setbacks.)

*Separate development standards regarding landslides, liquefaction, settlement, and subsidence have been purposefully avoided to allow for flexibility in ameliorating measures.

Construction

1. Those standards set by the Uniform Building Code shall be strictly enforced.

Disaster Preparedness

1. The emergency plans developed by the City, County, Region, and State shall be adopted for use in earthquake related disasters.

GLOSSARY OF GEOLOGIC TERMS USED IN THIS REPORT

Active Fault: A fault which shows evidence of movement during Quaternary time (last three million years).

Alluvium: A general term for the sediments deposited in river beds, flood plains, lakes and estuaries during relatively recent geologic time.

Conglomerates: A sedimentary rock composed of larger pebbles or cobbles set in a matrix of finer materials (such as sand, silt, and/or clay).

Diabase: A type of dark colored intrusive (cooled at depth) rock.

Differential Subsidence: An occurrence in which two adjacent land areas subside by different amounts.

Earthquake: An event caused by the rapid snapping movement of rocks along a fault and producing ground shaking.

Fault: A fracture (or break) in the earth along which the rock on one side has moved (or has been displaced) relative to the rock on the other side.

Fault Creep: A very slow movement along a fault which is unaccompanied by perceptible earthquakes.

Fault Trace: The intersection of a fault and the earth's surface as revealed by dislocation of fences and roads, and by ridges and furrows in the ground.

Franciscan Formation: A name for a group of rocks characterized, in part, by a large variety of rocks with a complex history.

Geologic Hazards: Those natural processes which while altering the earth, present a threat to the health and safety of man, his property, and his community.

Geology: The science which studies the earth through studying the rocks of which it is composed, the fossils in these rocks, and the processes which alter it.

Ground Water Table: The upper surface of the zone of water saturation within the ground.

Ground Shaking: The shaking of ground due to an earthquake.

Ground Response: The manner in which earth materials vibrate in response to an earthquake.

Inactive Fault: A fault which cannot be classified as either active or potentially active.

Jurassic and Cretaceous: Two segments of geologic time which, when combined, began 180 million years ago and ended 70 million years ago.

Liquefaction: A process by which a water-saturated sand layer loses strength when shaken, leading to a quicksand conditions.

GLOSSARY OF GEOLOGIC TERMS USED IN THIS REPORT (CONTD.)

Magnitude: A measure of the energy released by an earthquake. For a one-unit increase in magnitude, the energy released increases between 30 and 60 times.

Period: The time between seismic wave peaks.

Potentially Active Fault:* A fault which shows evidence of movement during middle to late Pliocene time (5 million to 3 million years ago) or is closely linked to faults considered active outside of the planning area.

Predominant Vibration Period: The time between seismic wave peaks to which a building on the ground is most vulnerable. (Usually measured in seconds.)

Rock Structures: Those features of rocks produced in rocks by movements after deposition, such as folding of rock layers.

Sandstone: A sedimentary rock formed from sands that have been cemented together.

Sedimentary Rocks: Rocks (commonly layered) formed by the accumulation sediments in water or from air.

Sediments: Particles of rocks, such as sand, silt, or clay.

Seiches: Earthquake-caused waves in lakes.

Seismic: Pertaining to an earthquake or earth vibration, including those that are artificially induced.

Sensitive Soils: Fine-grained cohesive soils (clays such as San Francisco Bay muds) whose strength when shaken is far less than when undisturbed. (They are gelatin-like).

Settlement: The compaction of loose soils (may be associated with ground shaking).

Serpentine: A type of metamorphic rock. (A rock which has been changed.)

Siltstone: A sedimentary rock composed largely of silt-sized particles.

Shale: A sedimentary rock composed largely of clays that has developed fine layers.

Sliding: A perceptible downward movement of either wet or dry soil or rock.

Subsidence: A down-dropping of a large area of land or a lowering of elevation of such an area.

Tertiary: A segment of geologic time beginning 70 million years ago and ending 3 million years ago.

Tuff: A rock formed from volcanic ash deposited in water or on dry ground.

*Definition developed by the City for planning purposes.

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GENERAL PLAN REVISION STUDIES

INTRODUCTION

The following staffs, consulting firms and individuals have made significant contributions to the General Plan revision studies over portions of the last five years that have led to the preparation and adoption of the Walnut Creek General Plan Report and Plan Diagram.

BASIC DATA, ANALYSIS, PROJECTIONS & SKETCH PLAN ALTERNATIVES (1967-1969)

<u>Walnut Creek Planning Department</u>	<u>Primary Responsibility</u>
Lester R. Foley, AIP, Director	Administration & Review
Robert R. Graham, AIP, Asst. Dir.	Principal in Charge of Project
Eugene F. Sabo, Planning Technician	Technical Assistance & Graphics
Charolene Harris, Int. Clerk-Typist	Typing and Proofing

Reports Published as Part of Program

Basic Data Report, 1967
Sketch Plan Alternatives Report, 1968
Preliminary General Plan Report, 1968

<u>Walnut Creek Public Works Department</u>	
Charles R. Bras, Asst. Director	Circulation Element Review

<u>Walnut Creek Parks & Recreation Department</u>	
Donald H. Biery, Director	Open Space Element Review

<u>Herman Ruth & Associates, City & Regional Planners</u>	
Herman Ruth, AIP	Administration & Review
Kalvin Platt (1967-1968)	Project Principal

Reports Published as Part of Program

Building Construction Activity Study, 1967
Hillside Development Study, 1967
Development Distribution Simulation Study (DDSS), 1968
Development Distribution Analysis Report (DDAR), 1968
Planning Information System (PINS), 1968

<u>David Chale & Associates</u>	
David Chale, Urban Systems Consultant	Consulting & Co-Authorship of DDSS, DDAR & PINS Reports

GENERAL PLAN REPORT & PLAN DIAGRAM (1971)

<u>Walnut Creek Planning Department</u>	
Lester R. Foley, AIP, Director	Administration & Review
Eugene F. Sabo, Planning Technician	Appendices, Plan Diagram & Graphics

<u>Walnut Creek Public Works Department</u>	
Dan Smith, Traffic Engineer	Traffic Estimates & Projections

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James Cover, Designer	Cluster & Community Design Diagrams
Nancy Aust, Typist	Typing & Proofing

SCENIC CORRIDOR ELEMENT

Procedures for Adding Roads to the State Scenic Highway System

Since 1963, the State of California has been working towards the development of a Statewide Scenic Highway System. In order for a route to become designated as an official "Scenic Highway," a multi-step procedure of study and approval must be taken. At present, the procedures are as follows:

- The recommendation of the State Scenic Highway Code to add the highway links to the "Master Plan of State Highways Eligible for Official Scenic Highway Designation". This authorizes the State Department of Public Works to expend funds on studying its routes to determine if they meet State criteria. Acceptance and inclusion in the State plan must be accomplished prior to any other state action.

For links with the State Master Plan

- The District Engineer of Caltrans receives a resolution from a local jurisdiction stating that it intends to conduct a study toward officially qualifying a scenic highway. Therefore, Caltrans has the responsibility of making a corridor survey in collaboration with the local jurisdiction.
- The purpose of the corridor survey is to identify the scenic elements adjacent to the roadway and the scenic resources requiring protective action and to outline tentative boundaries of the Scenic Corridor.
- The Scenic Highway Report covering the corridor survey and facility study is prepared by Caltrans and transmitted to the local jurisdiction for their use in preparing the Scenic Corridor Plan Program.
- Each affected local jurisdiction then prepares a detailed plan and program of proposed standards and measures for the protection of the Scenic Corridor.
- The program of each local jurisdiction and the Scenic Highway Report are submitted to the State Scenic Highway Advisory Committee. Following review, the Committee makes its findings and recommendations regarding the proposals of the local jurisdictions and Caltrans and sends them to the California Director of Public Works.
- Following approval of the report by the California Director of Public Works, the local governing body has the responsibility to enact the proposed measures to protect the Scenic Corridor.
- Upon enactment of these measures, the State Director of Public Works will designate the highway as an "Official State Scenic Highway" on a map or any other publication and the highway will be signed with the scenic highway shield which is an orange Poppy on a blue background.
- It should be emphasized that the scenic highways process is a cooperative effort with the local jurisdiction and the State. However, the final success as to whether a highway becomes designated as an "Official State Scenic Highway" depends upon the enactment of scenic protection measures by the local jurisdiction.

GLOSSARY OF GEOLOGIC TERMS USED IN THIS REPORT (CONTD.)

Magnitude: A measure of the energy released by an earthquake. For a one-unit increase in magnitude, the energy released increases between 30 and 60 times.

Period: The time between seismic wave peaks.

Potentially Active Fault:* A fault which shows evidence of movement during middle to late Pliocene time (5 million to 3 million years ago) or is closely linked to faults considered active outside of the planning area.

Predominant Vibration Period: The time between seismic wave peaks to which a building on the ground is most vulnerable. (Usually measured in seconds.)

Rock Structures: Those features of rocks produced in rocks by movements after deposition, such as folding of rock layers.

Sandstone: A sedimentary rock formed from sands that have been cemented together.

Sedimentary Rocks: Rocks (commonly layered) formed by the accumulation sediments in water or from air.

Sediments: Particles of rocks, such as sand, silt, or clay.

Seiches: Earthquake-caused waves in lakes.

Seismic: Pertaining to an earthquake or earth vibration, including those that are artificially induced.

Sensitive Soils: Fine-grained cohesive soils (clays such as San Francisco Bay muds) whose strength when shaken is far less than when undisturbed. (They are gelatin-like).

Settlement: The compaction of loose soils (may be associated with ground shaking).

Serpentine: A type of metamorphic rock. (A rock which has been changed.)

Siltstone: A sedimentary rock composed largely of silt-sized particles.

Shale: A sedimentary rock composed largely of clays that has developed fine layers.

Sliding: A perceptible downward movement of either wet or dry soil or rock.

Subsidence: A down-dropping of a large area of land or a lowering of elevation of such an area.

Tertiary: A segment of geologic time beginning 70 million years ago and ending 3 million years ago.

Tuff: A rock formed from volcanic ash deposited in water or on dry ground.

*Definition developed by the City for planning purposes.

STAFF & CONSULTANT PARTICIPANTS (1967-1971)

GENERAL PLAN REVISION STUDIES

INTRODUCTION

The following staffs, consulting firms and individuals have made significant contributions to the General Plan revision studies over portions of the last five years that have led to the preparation and adoption of the Walnut Creek General Plan Report and Plan Diagram.

BASIC DATA, ANALYSIS, PROJECTIONS & SKETCH PLAN ALTERNATIVES (1967-1969)

<u>Walnut Creek Planning Department</u>	<u>Primary Responsibility</u>
Lester R. Foley, AIP, Director	Administration & Review
Robert R. Graham, AIP, Asst. Dir.	Principal in Charge of Project
Eugene F. Sabo, Planning Technician	Technical Assistance & Graphics
Charolene Harris, Int. Clerk-Typist	Typing and Proofing

Reports Published as Part of Program

Basic Data Report, 1967
Sketch Plan Alternatives Report, 1968
Preliminary General Plan Report, 1968

Walnut Creek Public Works Department

Charles R. Bras, Asst. Director	Circulation Element Review
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Walnut Creek Parks & Recreation Department

Donald H. Biery, Director	Open Space Element Review
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Herman Ruth & Associates, City & Regional Planners

Herman Ruth, AIP	Administration & Review
Kalvin Platt (1967-1968)	Project Principal

Reports Published as Part of Program

Building Construction Activity Study, 1967
Hillside Development Study, 1967
Development Distribution Simulation Study (DDSS), 1968
Development Distribution Analysis Report (DDAR), 1968
Planning Information System (PINS), 1968

David Chale & Associates

David Chale, Urban Systems Consultant	Consulting & Co-Authorship of DDSS, DDAR & PINS Reports
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GENERAL PLAN REPORT & PLAN DIAGRAM (1971)

Walnut Creek Planning Department

Lester R. Foley, AIP, Director	Administration & Review
Eugene F. Sabo, Planning Technician	Appendices, Plan Diagram & Graphics

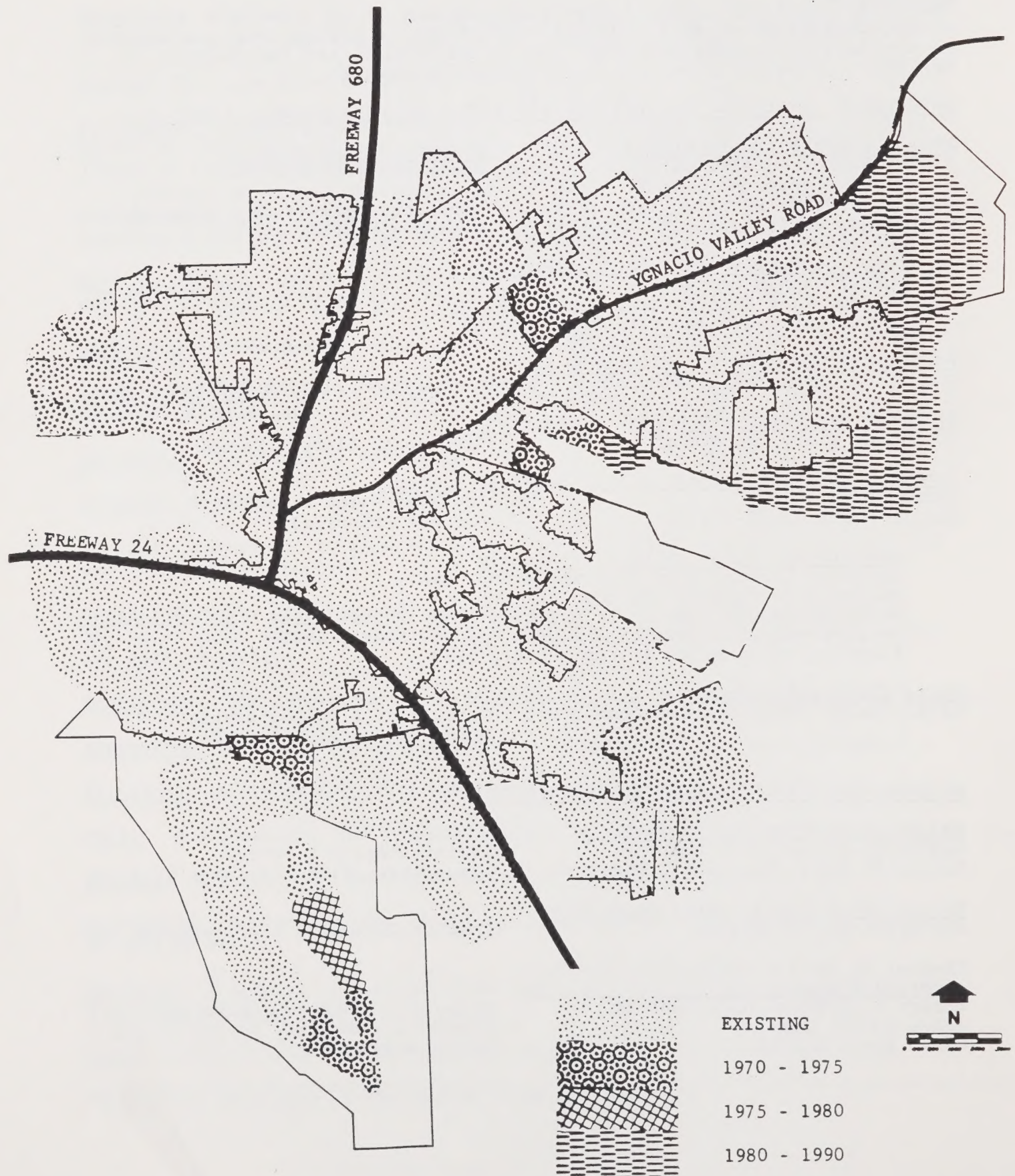
Walnut Creek Public Works Department

Dan Smith, Traffic Engineer	Traffic Estimates & Projections
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Charles W. Delk & Associates, Environ- mental Design

Robert R. Graham, AIP, Planner	Principal, Report Preparation
James Cover, Designer	Cluster & Community Design Diagrams
Nancy Aust, Typist	Typing & Proofing

DEVELOPMENT STAGING DIAGRAM



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